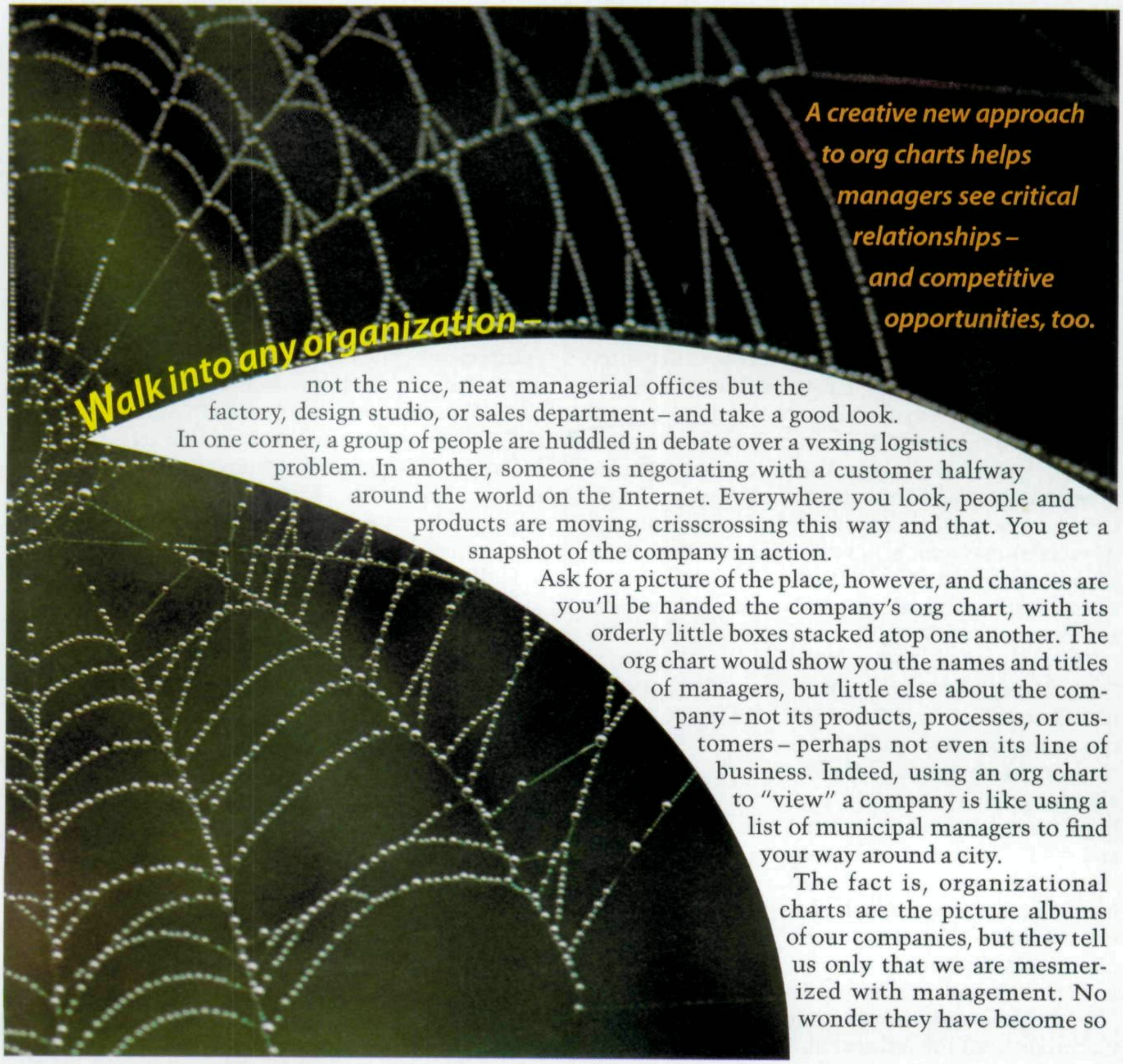
Organigraphs:

Drawing How Companies Really Work

by Henry Mintzberg and Ludo Van der Heyden



A creative new approach to org charts helps managers see critical relationships – and competitive opportunities, too.

Walk into any organization – not the nice, neat managerial offices but the factory, design studio, or sales department – and take a good look. In one corner, a group of people are huddled in debate over a vexing logistics problem. In another, someone is negotiating with a customer halfway around the world on the Internet. Everywhere you look, people and products are moving, crisscrossing this way and that. You get a snapshot of the company in action.

Ask for a picture of the place, however, and chances are you'll be handed the company's org chart, with its orderly little boxes stacked atop one another. The org chart would show you the names and titles of managers, but little else about the company – not its products, processes, or customers – perhaps not even its line of business. Indeed, using an org chart to "view" a company is like using a list of municipal managers to find your way around a city.

The fact is, organizational charts are the picture albums of our companies, but they tell us only that we are mesmerized with management. No wonder they have become so

ARTWORK: CORBIS/JULIE HABEL

irrelevant in today's world. With traditional hierarchies vanishing, and newfangled – and often quite complex – organizational forms taking their place, people are struggling to understand how their companies work. What parts connect to one another? How should processes and people come together? Whose ideas have to flow where? The answers to those questions not only help individuals understand how they fit into the grand scheme of things but also reveal all sorts of opportunities for competitive advantage.

For the past several years, we have been experimenting with a new way to draw – and thus, see – organizations. We call our approach an *organigraph,* a tip of the hat to the word *organigramme,* the French term for organizational charts. Organigraphs don't eliminate the little boxes altogether. But they do introduce new components called hubs and webs – forms that we believe reflect the varied ways people organize themselves at work today. Organigraphs are more than just pictures; they are also maps. They do not show individuals or positions so much as they provide an overview of a company's territory – its mountains, rivers, and towns, and the roads that connect them.

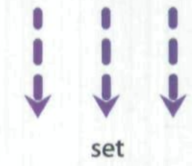
We have created organigraphs for about a dozen companies and have found that they are much more useful than traditional charts in showing *what* an organization is – why it exists, what it does. Organigraphs have been able to demonstrate *how* a place works, depicting critical interactions among people, products, and information. Moreover, executives have used their organigraphs to stimulate conversations about how best to manage their operations and which strategic options make the most sense, much as hikers use maps to investigate possible routes.

Take a look at the exhibit "Organigraph of a Petrochemical Company." It shows how the company operates like a traditional chain: raw materials are found or purchased, perhaps traded, and then refined and sold. Those activities constitute the main petroleum business. The organigraph also shows how the company's chemicals division connects with this chain in a more iterative, weblike way, drawing out materials from the refinery and feeding them in at another stage, at the retail gas pumps. While the sequential business relationships could very naturally be managed by a centralized planning office, the more weblike ones – with their need for negotiation of transfer prices and the like – may call for a more decentralized approach. Seeing such relationships illustrated can help a company understand the need for different managerial mind-sets throughout the organization.

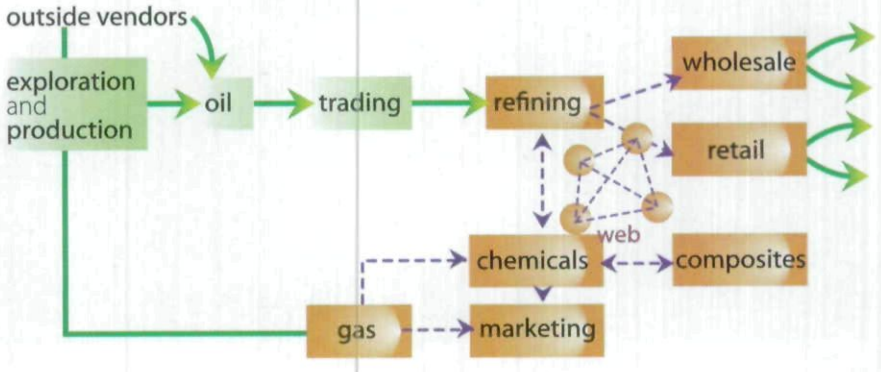
That businesses need a new way to depict their organizations is hardly a novel contention. In 1993, an article in *Business Week* suggested that companies begin to replace their org charts with figures that look like starbursts, shamrocks, and pizzas. Some commentators have even suggested that org charts be stood on their heads, putting operating employees on the top and bosses on the bottom. But all turning them upside down would do is provide a better depiction of the senior manager's headache. Organigraphs, instead, offer a new way to look at our companies. They are pictures that show not headaches but real businesses and their opportunities.

The Basic Forms of Organizing

Organigraphs contain two rather conventional components. The first is a *set.* Every organization is a set of items, such as machines or people. Sometimes these items barely connect with one another, and so they remain just that – sets. Parts in a warehouse, for example, wait there as independent items, as do the finished products of a factory before they are shipped off. Many professional service firms, such as law offices, operate as sets, with pro-

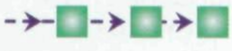


Organigraph of a Petrochemical Company



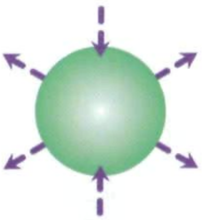
fessionals working almost exclusively with their own clients. The same can be said about the divisions of a conglomerate company or the professors teaching and doing research at a university: all of these function rather independently. They are loosely coupled as a collection, a group, or a portfolio. These sets usually share common resources – facilities, funds, overall management – or else they would not be found in the same organization. But otherwise, they are on their own.

More commonly, though, organizations don't exist to house sets. They exist for purposes of connection. And connection is usually shown by the second conventional form, the *chain.* Materials enter a factory to be transformed into parts, which are combined into subassemblies, which are combined into final assemblies and then shipped to customers. The assembly line in an automobile factory is the prototypical example of this linear connecting process – here, chains prevail. Indeed, chains are so embedded in business imagery that many managers describe their strategies in terms of value chains and their logistics in terms of supply chains.

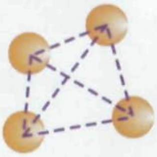

chain

The preponderance of chains in business thinking is certainly understandable. Because chains are linear, they promote standardization and therefore enhance reliability. They can clarify and systematize the many complex processes that constitute business today. Imagine an automobile factory without chains! But do chains really describe all the activities and relationships within a company? Obviously not. Think of the buzzing confusion of a customer service office or the zigs and zags of new product development. And what of airports and trading floors? These, we would suggest, are better depicted in different ways – as hubs and webs.

Hubs first. A *hub* serves as a coordinating center. It is any physical or conceptual point at which people, things, or information move. A building can be a hub – think of a school or an airport. So can a machine – a computer, for example. A manager can be a hub. Just think of a football coach. And so can a core competence, such as optics at Canon or bonding and coating at 3M. In fact, places that we usually consider chains may also be considered hubs. Draw a big circle around a factory, including its assembly line (a chain), and the whole place looks like a hub, to which parts and people flow and from which products emerge.


hub

Hubs depict movement to and from one focal point. But oftentimes connections are more complicated than that. That's where *webs* come in. We are constantly being reminded that we live in the age of the network, where different "nodes" – be they people, teams, computers, or whatever else – connect in all kinds of ways. Webs, as we have come to see, are grids with no center; they allow open-ended communication and continuous movement of people and ideas.


web

Take new product development, for example. In the midst of a launch, the cast of characters talking to one another – often in very circuitous ways – will include managers, engineers, salespeople, and customers. Any complex project these days can be seen as a web. Think of how the Olympic Games are organized or how a movie is made. Everyone talks to everyone else, often with creative and unexpected outcomes.

The new vocabulary of organigraphs can expand how we view our organizations; it can even expand our thinking about strategic direction. Consider the exhibit "Organigraphs of a Canadian Bank." For years, the company had been a classic "silo" organization, with its businesses, such as insurance and brokerage, approaching customers independently. Then, as information sharing and cross-selling became competitive necessities, the bank began exploring other ways of organizing. One was to assign company representatives – personal financial advisers – to deal with customers for all the businesses, so as to present an integrated front. These advisers become, in effect, a hub for the customer. Another option was to place representatives from the different businesses in adjacent offices so that they could work cooperatively in dealing with customers – passing on leads and so forth. That way, the business representatives could work as a team – a web – while doing business with customers. Such options would have been available to the bank without organigraphs, of course, but the new vocabulary, and associated pictures, brought the choices into high relief.

Given the propensity of hubs and webs in organizations today, where does that leave the traditional

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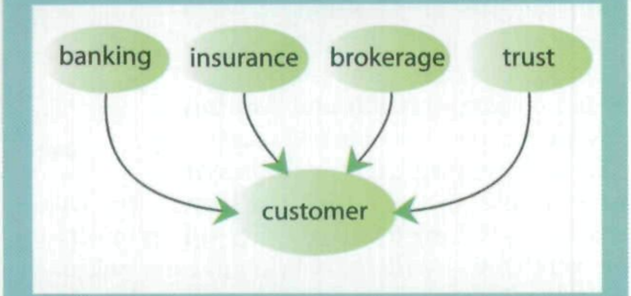
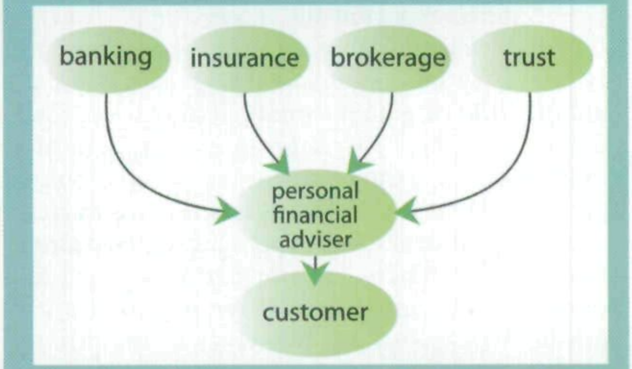
Organigraphs of a Canadian Bank

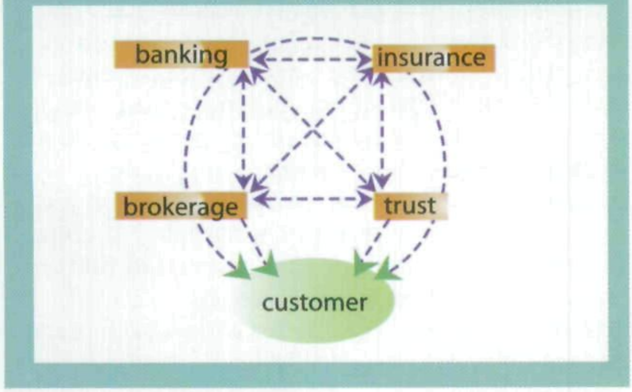
This organigraph depicts the bank's original structure. Each division operates as a silo – a member of a set – and approaches the customer independently.



A second organigraph depicts one strategic option. All divisions converge on financial advisers – acting as a hub – who can approach each customer in an integrated way.



A third organigraph illuminates another strategic option. Representatives from each business work cooperatively – as a web – at each branch, but approach customers independently.



organizational chart? The organizational chart treats everyone and everything as an independent box. And every one of those boxes is connected by a vertical chain – that is, a chain of authority. If that is how we see organizations, is it any wonder there has been so much restructuring and delayering, so much merging and outsourcing? These changes are initially driven by a reshuffling of boxes on paper – too often without careful consideration of an organization's real ways of doing business and of creating value.

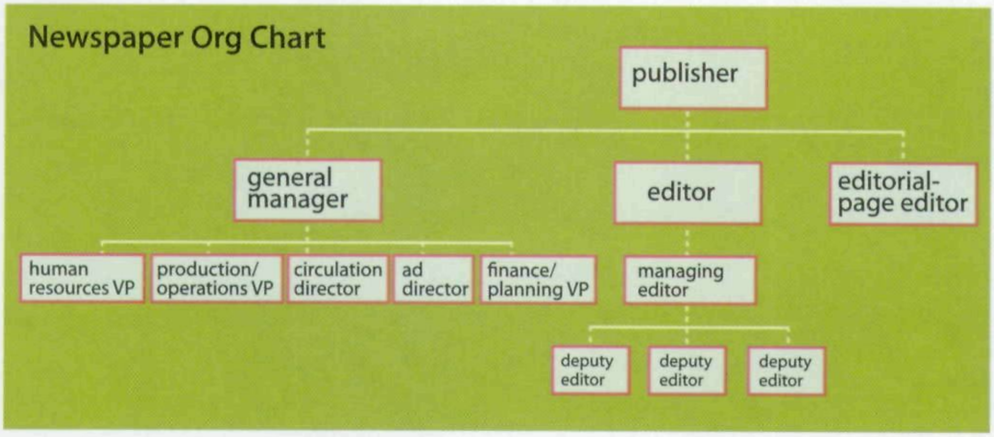
Organigraphs in Action

When you try to draw an organigraph using sets, chains, hubs, and webs, what happens? Almost anything. There is no right organigraph. Unlike the org chart with its strict rules of arrangement, an organigraph requires managers to create a customized picture of their company, something that involves imagination and an open mind. (Organigraphs can, in fact, include shapes besides sets, chains, hubs, and webs – as long as the shapes convey meaning. For instance, some organigraphs include funnels, suggesting a chain in which a transformation takes place.) Organigraphs can be disconcerting to those accustomed to doing things the traditional way. One manager we worked with resisted them initially, saying, "But I like org charts. When something goes wrong in my company, I know exactly whom to call to fix it." Always formal authority! To draw an organigraph, you must accept the fact that it has less to do with names and titles than with relationships and processes.

To see how an organigraph works, let's look at the exhibit "Organigraph of a Newspaper." A newspaper brings in a variety of materials from society – news, photographs, and the like. Employees at the newspaper screen the material, transform it, and assemble it into a single document. The document then goes to a plant for reproduction, and the copies are distributed back to society, indeed to many of the same people responsible for the inputs, such as letters to the editor and classified ads.

The newspaper organigraph shows that while the organization's overall flow is a chain, other forms coexist within it. The reporters' relationships with the community, for example, can be seen as a web: the stock-in-trade of many reporters is to build networks of sources. And the whole newspaper might be considered a hub, upon which all sorts of inputs converge – classified and other advertisements, letters to the editor, article ideas, and so on – to be dispersed back into society. Because they are not integral to the main linear flow of the organization, various support and administrative functions, such as purchasing and finance, are shown around the hub, not within it.

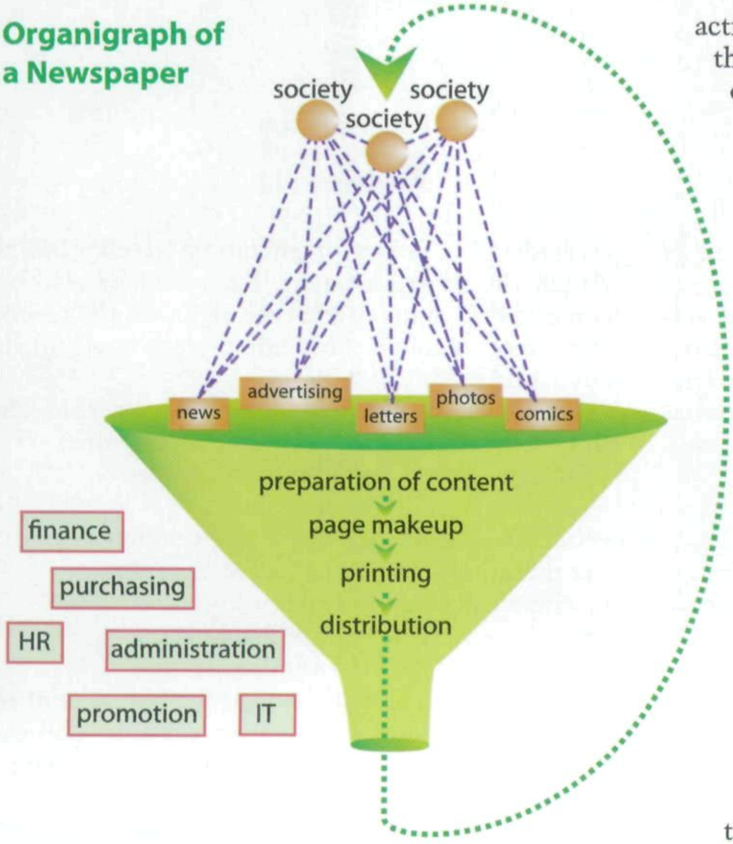
What a different picture than the traditional org chart! (For a comparison, see the exhibit "Newspaper Org Chart.") Those little stacked boxes imply an organization consisting of independent agents. The picture doesn't even show advertisers, and it

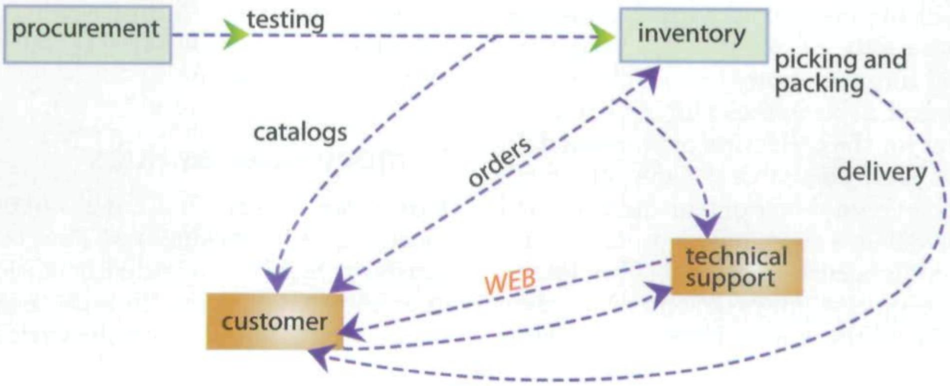

Newspaper Org Chart
publisher
general manager
editor
editorial-page editor
human resources VP
production/operations VP
circulation director
ad director
finance/planning VP
managing editor
deputy editor
deputy editor
deputy editor

suggests that the human resources department is somehow in the thick of the company's operating processes. The organigraph, in contrast, shows that advertisers are both sources of content (as part of the web) and customers and puts HR's role in perspective. It also draws attention to the scope of the business, suggesting which activities ought to be retained inside the core of the company and which might be candidates for outsourcing, such as printing and distribution.

The exhibit "Organigraph of Electrocomponents," showing a British distributor of electrical and mechanical items, depicts an entirely different business than that of the newspaper. When you actually visit the company, it *appears* to function like a web: an automatic machine picks a variety of different items from all over large warehouses and moves them to packing. But this activity is, in fact, more like a set of chains: each order is picked in careful sequence.

Overall, the company's work is a chain. Electrocomponents procures thousands of items, which are held in inventory. When customers place orders, products are picked off the shelves and delivered on a day's notice. But as is often the case, the company actually combines organizational forms. For example, the company's relationships with customers can also be seen as a web. Several times a year, Electrocomponents sends out

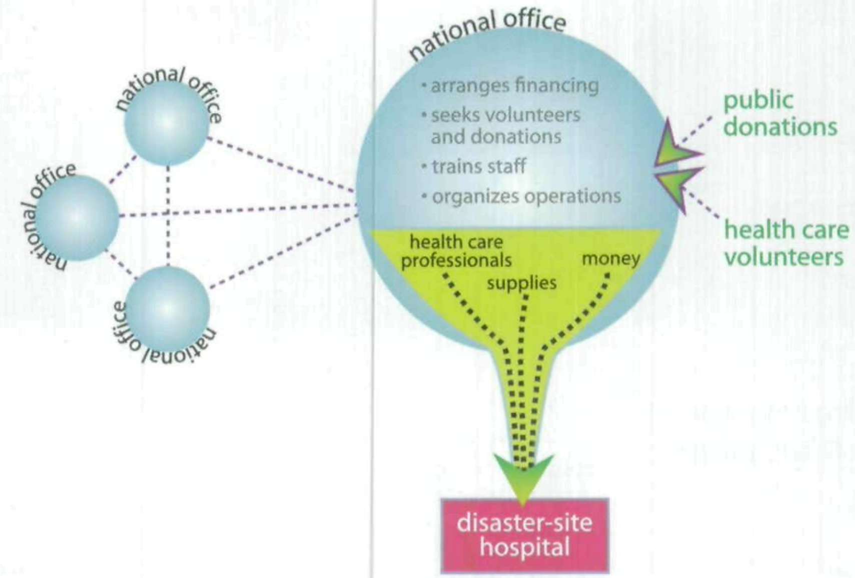

Organigraph of a Newspaper
society
society
society
news
advertising
letters
photos
comics
preparation of content
page makeup
printing
distribution
finance
purchasing
HR
administration
promotion
IT


Organigraph of Electrocomponents
procurement
testing
inventory
picking and packing
catalogs
orders
delivery
technical support
WEB
customer

catalogs to its customers, most of whom are engineers. They phone in their orders and can use the same call to ask for advice from the technical support staff, who are also engineers.

The organigraph we developed with Electrocomponents allowed managers to see nearly a dozen new opportunities to expand the business. "The picture forced us to think about what our real expertise was," recalls CEO Bob Lawson. "And we decided that it was in business-to-business relationships, not with consumers." As a result of that insight, Electrocomponents decided to expand significantly in Asia and to increase its Internet business. Further, the organigraph helped the company's managers see the strategic logic of segmenting its catalog. Having sent out only one version before, it now issues six specialized versions. The organigraph also showed managers opportunities to expand and sell the company's testing services. "At a glance, that diagram allowed us to see all sorts of new possibilities," Lawson says.

Organigraph of Médecins Sans Frontières



A Nest of Organizational Forms

Chains, hubs, webs, and sets can be found throughout most organizations. In the exhibit "Organigraph of Médecins Sans Frontières" (Doctors Without Borders), we take that concept one step further, depicting the nesting of such relationships – hubs within hubs within sets.

The organigraph shows a nonprofit that establishes emergency hospitals in disaster areas. Médecins Sans Frontières is made up of a set of national offices. There is no world headquarters – no hub. Rather, CEOs from the national offices meet periodically, and when a crisis arises, people from the offices communicate informally with one another. They form a loose web.

Each national office is, however, a hub unto itself. (See the largest circle in the exhibit.) The office is the focal point for the collection of professionals, supplies, funds, and procedures. Each office, for instance, holds its own donations in the bank and has a list of physicians prepared to go on assignment. When a crisis occurs, a national office assembles resources – people, supplies, and money. It then ships them to the troubled area. There, a hospital is created – a temporary organization – itself a hub to which the ill are brought. Each patient also becomes a hub in his or her own right, on the receiving end of various health care professionals, medicines, and food.

The organigraph shows that there are four distinct areas of operation within this nonprofit:

- a national office coordinates resources available for relief operations;
- that office also assembles those resources at the time of a particular relief operation;
- a chain transfers the relief resources from the national office to the hospital site;
- that hospital then delivers health care.

The organigraph makes clear the managerial realities the nonprofit faces. For example, one can see from the illustration that the burden of promoting the organization and raising money for it lies on the national offices themselves. The loose web that serves as an umbrella for the set of national offices is not organized to do so. Further, the organigraph shows operating autonomy on site – yet simultaneously illuminates the need to facilitate information flow between the national office and the disaster area.

Competencies as Hubs

Earlier we described a conglomerate as a set of loosely coupled businesses. That certainly makes sense for highly diversified operations, especially ones that have grown through the acquisition of businesses in unrelated industries. The divisions constitute a portfolio, held together by a headquarters that manages the flow of capital and imposes financial standards of performance.

But these days, the notion of conglomeration has given way to the concept of core competence: that the many products of companies such as Canon or 3M–which have grown more by the internal development of new products than by the acquisition of external businesses–are held together by some core of knowledge, skills, or resources. These competencies, then, can be seen as the *hub* of the organization, to which all activities relate.

Consider the exhibit "Organigraph of Frontec," which shows a Canadian company with about $130 million (Canadian) in annual sales. Founded in 1986, Frontec's first business was providing staff and supplies to the military's early warning stations in the far north. From there, it branched into other activities, such as construction, the running of hotels and airports, and a contract for the installation of communications equipment on military vehicles–mostly in remote, dangerous locations, often with challenging logistics. Frontec employees have worked with polar bears nearby–one operation is 400 miles from the North Pole–and sometimes have to fly helicopters in whiteouts. Such conditions explain why a primary core competence of the company is people development. The most important job for senior managers is to ensure that the right people are in charge of field operations. They do so by carefully selecting and developing key personnel.

A second core competence is business development, shown in the organigraph as closer to the field operations. The various ventures are listed all around the business development competence, as satellites, or quasi-independent business activities, which are shown to be associated with various categories such as Airport Services and Northern Enterprises.

The organigraph helped Frontec's senior managers communicate their self-image of a "frontier venturer" to a board of directors that was accustomed to more conventional organizations. It allowed managers to illustrate the company's character–that it is a company organized around competencies that allow it to venture into new and daring businesses in uncharted locations.

Putting Management in Its Place

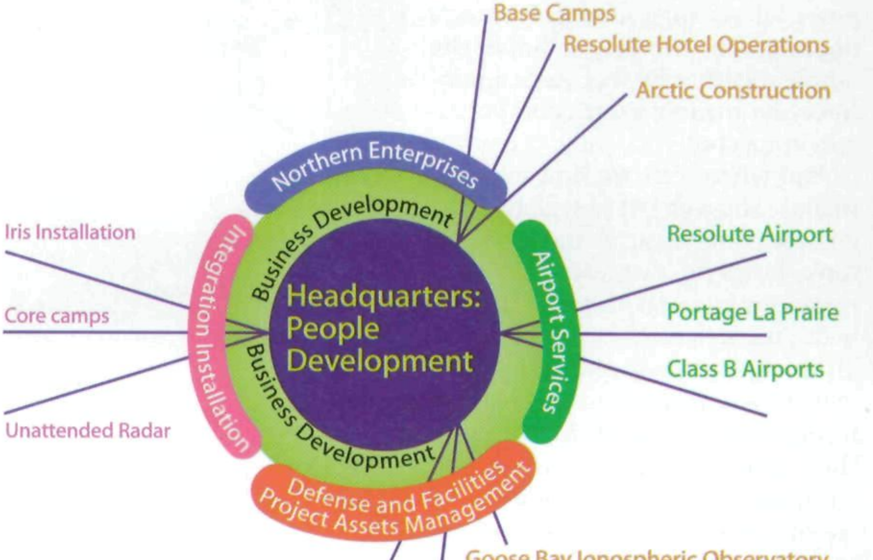
One of the greatest benefits of seeing organizations differently is that we begin to see management differently. Isn't it about time? In the traditional organizational chart, senior managers always appear on top. But is that always the best place for them?

We think not. The very notion of "top management" may long have had a debilitating effect on organizations and on the behaviors of managers themselves. Bear in mind that "top management" is just a metaphor. In reality, the top manager is on top of nothing but a chart. Managers who see themselves on top of their organizations may not really be on top of what takes place there. They may simply be too distant from the actual work being done.

Each organizational form suggests a different philosophy of managing. Sets suggest that managers stay away from the action, watching and comparing. In a conglomerate, for example, executives at headquarters oversee the divisions for the purposes of allocation. Their job, basically, is to decide who gets what resources.

The chain puts a boss above as well, but in this case above each link–a manager for each and a manager

Organigraph of Frontec


Base Camps
Resolute Hotel Operations
Arctic Construction
Northern Enterprises
Business Development
Iris Installation
Core camps
Unattended Radar
Integration Installation
Headquarters: People Development
Airport Services
Resolute Airport
Portage La Praire
Class B Airports
Business Development
Defense and Facilities Project Assets Management
Goose Bay Ionospheric Observatory
North Warning System
North Warning System Additional Work Requirements

for all. In other words, the chain of command is laid over the chain of operations. The chain of operations is clear and orderly, and the chain of management exists primarily to keep it that way – for control.

It is when we move on to hubs and webs that management moves off its pedestal. In the hub, management appears in the center, around which activities revolve, as can be seen in the organigraphs of Médecins Sans Frontières and Frontec. Management at the center has an interesting implication: whoever is at the center *becomes* the manager. For example, if the hospital patient is a hub, then the nurse – not the doctor, not the chief of staff – is the manager. Why? Because the nurse coordinates the array of services that converge on the patient. In a real sense, nursing is managing – which means that managing can extend beyond formal authority.

Managing at the center implies something profoundly different from managing on top. While the chain controls, the hub coordinates. The chain may pretend to empower; the hub brings together people who are intrinsically empowered. As suggested in Frontec's organigraph, the center holds the whole together by working to reinforce the organization's competencies at its core.

And where can we find management in the web? At first glance, the answer is not clear. A more careful look, however, suggests that good management acts throughout the web. In a network – a project or an alliance, for example – managers have to be *everywhere.* In practical terms, that means out from behind their desks – in design studios, in airplanes on the way to offices and clients, and in other places where real work happens. Management that is not everywhere in the web is nowhere. The web is so fluid that managers cannot afford to remain in the center. In the web, managers have to move around, literally as well as figuratively, in order to facilitate collaboration and energize the whole network. They need to encourage people who already know how to do their work and do it well.

In a web, management can also be *everyone.* Whoever draws things together becomes a de facto manager. All kinds of people are managers who do not carry that official title, be it scientists in a research lab or salespeople in the field. (For an illustration of this point, see the exhibit "The Four Philosophies of Managing.")

In one sense, these philosophies of managing – allocating in the set, controlling in the chain, coordinating in the hub, and energizing in the web – are apt metaphors. Chains are heavy, webs are light. Hubs, in between, can explode or implode if not managed correctly. Follow a chain and you know where you will end up. Just don't try to go anywhere else! Find a hub and you know where to begin or end. Not so for the set, which can start and end in different places. The web, by contrast, can take you every which way. That can leave you flexible or flustered – and often both.

For companies to thrive in today's economy, management has to be put in its place – in another place, that is. Not atop the chart – at least not in all but the most tightly controlled, highly programmed bureaucracies – but down into its essence, whether at a center, as a hub, or throughout, as a web. That way those old charts can be put in their place, too (in something round that sits on the floor but is not a hub). By viewing management in this way, we can recognize it for what it has to be: the servant of the organization, not its purpose.

Do you see?

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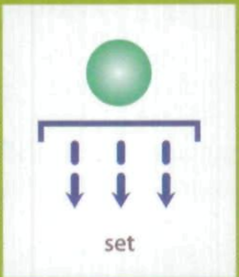
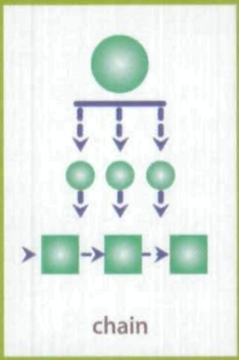
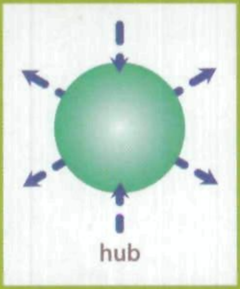
The Four Philosophies of Managing



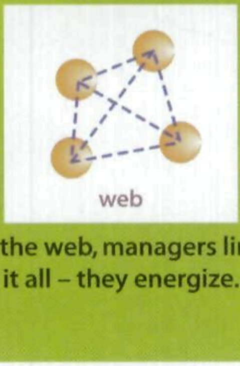
In the set, managers look it over – they allocate.



In the chain, managers lay it on – they control.



In the hub, managers draw it in – they coordinate.



In the web, managers link it all – they energize.

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