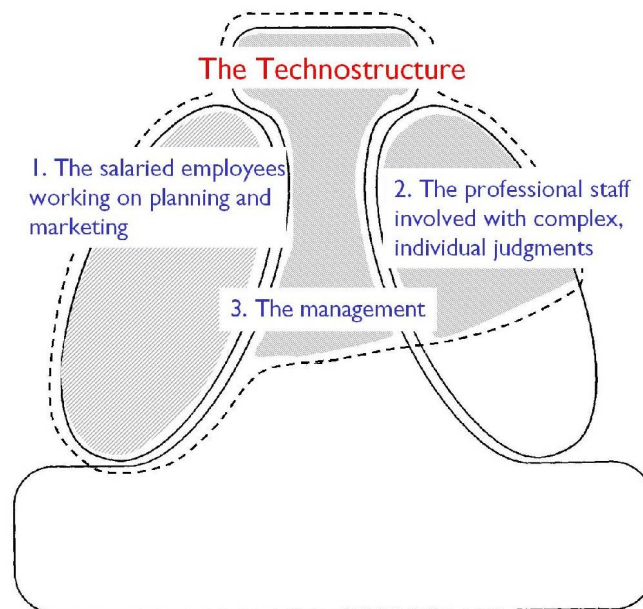


The Technostructure versus Morgan's Metaphors



Applied Theories of John Kenneth Galbraith, Henry Mintzberg, and Gareth Morgan

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Abstract: This is a study of the technostructure as described by J.K. Galbraith and Henry Mintzberg. Their notion of the technostructure is compared to Gareth Morgan's eight metaphors in "Images of Organization" to see if Morgan's metaphors can provide new aspects of the technostructure. They can, as I confirm the two research questions.

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1. Research Questions

Since I graduated I have been working as a part of salaried staffs, and I have always been wondering whether I took care of the salaried staff's interests instead of the employer's interests in my daily work. This paper is a study of three mature authors' works. What can they tell about the salaried staff, and is it of any use today?

In 1967 John Kenneth Galbraith wrote *The New Industrial State*. In the book he analyzed his new finding "The Technostructure" as a part of his description of modern economic life. He defines the technostructure as the leadership of the modern industrial enterprise. He found that it is the complex of specialists and technicians that exercise the decisive power.¹

In 1983 Henry Mintzberg published both *Structure in Fives* and *Power In and Around Organizations*, which among other topics describe the technostructure as taking part in the management and development of individual organizations.²

In 1986 Gareth Morgan published *Images of Organization* where he is using various metaphors to scrutinize our perceptions of organization. The book does not treat the notion of the technostructure as such. Second edition was published 1997.³

The works of the three authors are the basis for my research questions:

1. Is Galbraith's and Mintzberg's technostructure providing a useful description of leadership and development in the modern enterprise?
2. Can Morgan's metaphors provide new aspects on the technostructure?

1.a Delimitations

I narrow my use of economic literature to the three mentioned authors to carry through with a thorough analysis.

1.b Definitions

The technostructure exercises the decisive power in many organizations. It is composed of:

1. The salaried employees working on planning and marketing
2. The professional staff involved with complex, individual judgments
3. The management

(This definition is discussed in details in section 3.b)

1.c Design of the Examination

This is a theoretical study of the economic literature. I have used literature on economics and organization for the theoretical input, internet files, etc.

The power theme is present in both research questions. In general, it is difficult to examine questions of power and receive valid answers because the relative strength and points of view of two parties will not appear until they disagree, and because the powerful will not openly acknowledge their actual or potential use of power.

¹ John Kenneth Galbraith 1967: *The New Industrial State*, Houghton Mifflin Company, Boston.

² Henry Mintzberg 1983A: *Structure in Fives*, Prentice-Hall, New Jersey and Henry Mintzberg 1983B: *Power In and Around Organizations*, Prentice-Hall, New Jersey

³ Gareth Morgan 1997: *Images of Organization*, 2nd ed., Sage Publications, Thousand Oaks.

Further, there may be a problem in the points of view. J.K. Galbraith describes organizations from an external, political-economical point of view while Mintzberg and Morgan mostly describe organizations viewed from within.

There are four considerations one should always take into account in social studies:⁴

1. Validity: Is this study actually examining what it claims to study?
2. Reliability: Is the study carried out in a sufficiently exact way?
3. Representability: Are data and respondents representative?
4. Method and design: Are the chosen method and combinations of data appropriate?

As this is a theoretical study, there are no data and no respondents. That means that out of the four considerations it is validity and reliability that have importance. I will consider these items in section 5.a after answering the research questions.

⁴ From Ib Andersen 2003: Den skinbarlige virkelighed ("The Incarnate Reality", textbook of social sciences methods), Samfundslitteratur, København

2. On the Three Authors

Studying the economic literature, I have found three authors engaged in explaining the organizational problems described here: John Kenneth Galbraith, Henry Mintzberg, and Gareth Morgan. By coincidence they are all connected to Canada.



John Kenneth Galbraith



Henry Mintzberg



Gareth Morgan

John Kenneth Galbraith is an American economist born in Canada 1908. He started teaching agricultural economics at Harvard University. During World War II, he was in charge of the US wartime price control, and later he worked as an economic journalist, as US ambassador in India, and as professor of Economics at Harvard University. In 1959, he published the bestseller *The Affluent Society*, and in 1967, he followed this up with *The New Industrial State*.

The New Industrial State is a more theoretical analysis of Galbraith's findings as he described them in *The Affluent Society*. Who is ruling the huge American corporation? Not the owners and maybe not even the managers. Instead, the technostructure has taken leadership of the modern industrial enterprise, and this complex of specialists and technicians is now exercising the decisive power.

Galbraith developed the concept of the technostructure to explain how hi-tech weapon development contracts were negotiated between the Pentagon and huge US corporations without use of the open market.

Henry Mintzberg was born in Canada in 1939. He has published a series of learned analyses of general theories of organization and power. In this study, I have referenced:

- *The Structuring of Organizations*, published 1979⁵,
- *Structure in Fives: Designing Effective Organizations*, published 1983⁶, an abbreviated version of *The Structuring of Organizations*,
- *Power In and Around Organizations*, published in 1983 as well⁷

Gareth Morgan was born in England in 1943. He is Research Professor at York University in Toronto, Canada. He is a best-selling author, speaker and consultant on managing change. His books include *Images of Organization*, *Riding the Waves of Change*, and *Imaginization*.

Images of Organization has established itself as a classic that has influenced management thinking throughout the world. Morgan shows us how to view organizations with his renowned creative images and metaphors.⁸

⁵ Henry Mintzberg 1979: *The Structuring of Organizations*, Prentice-Hall, New Jersey

⁶ Henry Mintzberg 1983A

⁷ Henry Mintzberg 1983B

⁸ Marketing from <http://www.imaginiz.com/> and <http://www.amazon.co.uk>

3. Galbraith's and Mintzberg's Technostructure

3.a Galbraith's Technostructure

Here is how Galbraith describes his new concept, the Technostructure:

"It embraces all who bring specialized knowledge, talent or experience to group decision-making. This, not the management, is the guiding intelligence - the brain - of the enterprise. There is no name for all who participate in group decision-making or the organization which they form. I propose to call this organization the Technostructure."⁹

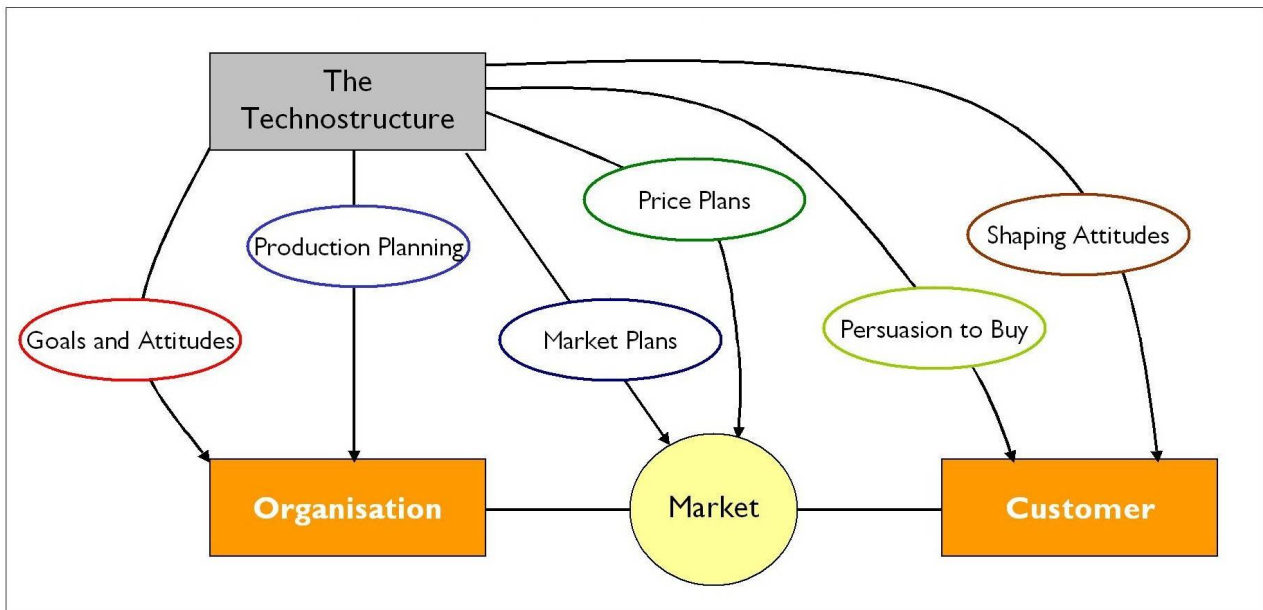


Figure 1: The Technostructure's influence on all parts of the transaction

Here is an excerpt from his study of planning:

"Planning, in short, requires a great variety of information. It requires variously informed men and men who are suitably specialized in obtaining the requisite information. There must be men whose knowledge allows them to foresee need and to insure a supply of labor, materials and other production requirements; those who have knowledge to plan price strategies and see that customers are suitably persuaded to buy at these prices; those who, at higher levels of technology, are so informed that they can work effectively with the state to see that it is suitably guided; and those who can organize the flow of information that the above tasks and many others require. Thus, to the requirements of technology for specialized technical and scientific talent are added the very large further requirements of the planning that technology makes necessary."¹⁰

There is nothing particularly complex about the workforce - the complexity is in the way it is organized:

"The real accomplishment of modern science and technology consists in taking ordinary men, informing them narrowly and deeply and then, through appropriate organization,

⁹ Galbraith 1967 p. 71

¹⁰ Galbraith 1967 p. 212

arranging to have their knowledge combined with that of other specialized but equally ordinary men."¹¹

The reason for the involvement of the technostructure in the workforce is that it...

*"is an apparatus for group decision - for pooling and testing the information provided by numerous individuals to reach decisions that are beyond the knowledge of any one. ... If problems were susceptible to decision by individuals, no group would be involved"*¹²

According to the wording above, the management is not part of the technostructure. But elsewhere Galbraith mentions the management as part of the technostructure:

*"... it could be that the industrial system, and its ethos, impose the greatest burden on its leaders – on those who are at the center of the technostructure"*¹³

3.b Mintzberg's Technostructure

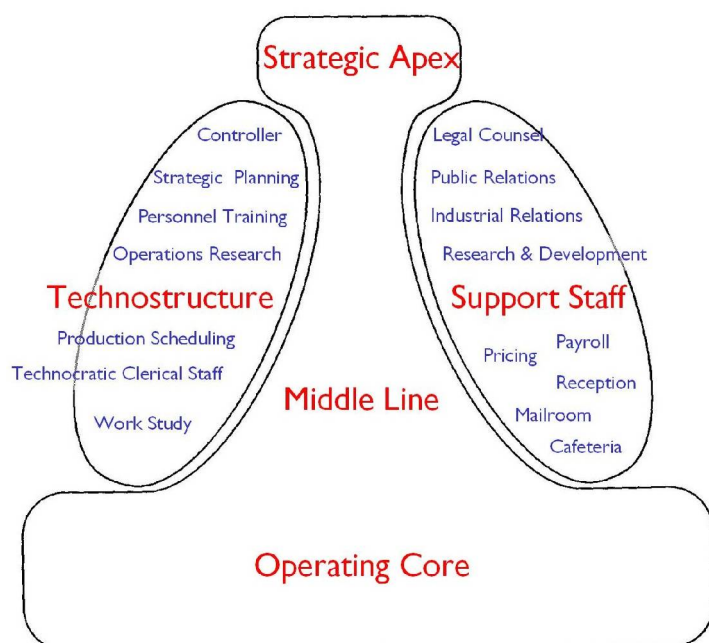


Figure 2: Mintzberg: The various parts of the manufacturing firm¹⁴

Henry Mintzberg identified five configurations of organization:

1. The machine bureaucracy
2. The divisionalized form
3. The professional bureaucracy
4. The simple structure
5. The adhocracy

It is Mintzberg's theory that all organizations follow the same pattern. The concept is a vertical axis with the Chief Executive Officer (Strategic Apex) commanding the Operating Core through the managers of the Middle Line. At the sides of this vertical axis are the Technostructure and the Support Staff.

In the technostructure part the analysts carry out their work of standardizing the work of others. They also apply their analytical techniques to help the organization adapt to its

¹¹ Galbraith 1967 p. 62

¹² Galbraith 1967 p. 77

¹³ Galbraith 1967 p. 368

¹⁴ Mintzberg 1983A p. 18, Mintzberg 1979 p. 33

environment¹⁵. In the right part of the figure the Support Staff is offering other services to the organization: Research and development, pricing, reception, etc. Here is a description of the analysts:

"The analysts ... serve the organization by affecting the work of others. These analysts are removed from the operating work flow - they may design it, plan it, change it, or train the people who do it, but they do not do it themselves. Thus the technostructure is effective only when it can use its analytical techniques to make the work of others more effective."¹⁶

Henry Mintzberg offers a description of the differences between his and Galbraith's view of the technostructure. Compared to Mintzberg's model, Galbraith's technostructure includes both analysts and other staff:

"Such organizations are, in Galbraith's view, controlled by their "technostructures," a term he uses to designate not only their analysts (as we do), but their line managers and other staff specialists as well."¹⁷

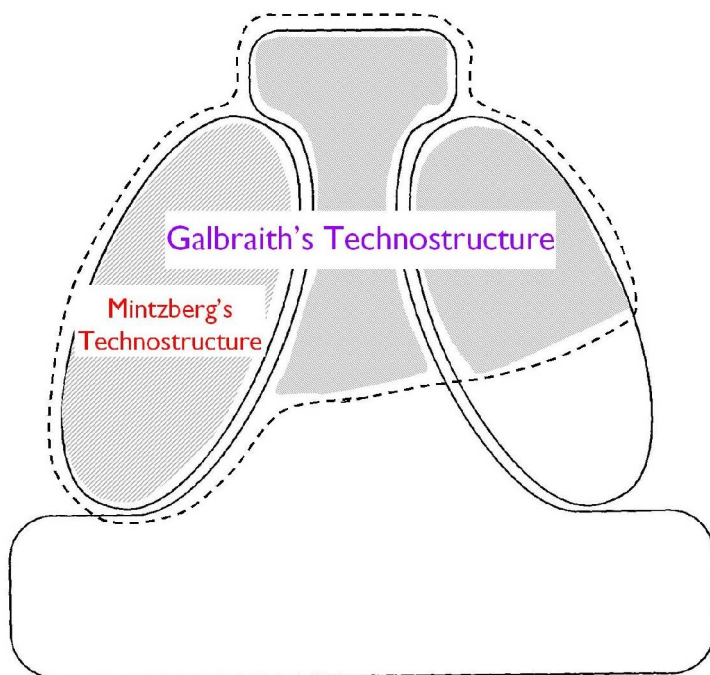


Figure 3: Galbraith's approach shown in Mintzberg's scheme

Discussion

Galbraith and Mintzberg have a common basis in the general structure of the manufacturing firm and the North American market. However, they made their contributions in the 1960's and 1980's, and there have been a lot of changes in the world economy since then. Many new factors must now be considered:

1. **Production outsourced:** Many companies expand their relationship with their customers, but outsource their manufacturing to other parts of the world. This leads to greater co-operation with both contractors and customers.
2. **Technological development:** Information technology add to structural change because, as a general rule, the new technology offers improved economy of scale

¹⁵ Mintzberg 1983A p. 15, Mintzberg 1979 p. 19

¹⁶ Mintzberg 1983A p. 15, Mintzberg 1979 p. 29 f.

¹⁷ Mintzberg 1983B p. 346

3. **Hi-tech weapons for the US Government, or a general rule?** The technostructure's influence is obvious in the weapons industry, but I consider the pattern of the technostructure to be widely extended.

I have some objections to Mintzberg's concept of the technostructure:

1. **Accidental grouping of staff personnel:** Any firm may contain support staff, but the classification of legal counsel, public relations, industrial relation, R&D, and pricing belonging to the Support Staff rather than the Technostructure is difficult to understand. Mintzberg is aware of the affiliation, as seen in his writings on members of the legal department: "*As for the analysts of the technostructure, they are professionals, in that their work requires considerable knowledge and skill.*"¹⁸
2. **Stressing standardization:** Since the elaboration of his theory much of the standardization has been moved out of most companies. Everybody is using IT systems with identical user interfaces, and many external consultants are traveling between companies introducing identical management methods and information systems. Mintzberg mentioned planning as part of the tasks of the technostructure but, in Figure 2, we see that he has placed certain kinds of planning such as Pricing and Research & Development with the Support Staff.
3. **Outsourcing the operating core:** Many companies now try to get more value creation by expanding their relationship with the customer, but no longer handle production by themselves. In this way, one may say that the companies are outsourcing their operating core. Other companies choose not to sell any products, but instead to sell services with a high content of knowledge. Such firms may consist of staff personnel only. This means that some parts of Mintzberg's *Structure in Fives* are amputated, while other parts are enlarged beyond recognition.

I have some objections to Galbraith's writing as well. I find that his text is not as structured as Mintzberg's. It's entertaining and understandable, but not as easy to find the exact scriptural passage.

Compared to Mintzberg I prefer Galbraith's definition of the technostructure because:

1. Galbraith regards all planners as members of the technostructure
2. He puts weight on the task of planning rather than standardization
3. The model is better prepared for an outsourced production

This leads to the first part of my definition of the technostructure:

The technostructure in an organization is composed of:

1. The salaried employees working on planning and marketing
2. The professional staff involved with complex, individual judgments, and
3. The management

3.c *Delegation of Power*

As professional workers, members of the technostructure perform work that requires a high degree of skill or knowledge. Such work has several qualities, among others

- The work appears interesting and attractive in itself
- The professional worker accumulate critical knowledge and skills
- Part of the work employs a considerable amount of individual judgment

¹⁸ Mintzberg 1979 p. 79

- The complexity of the work rules out a close administrative control

The organization surrenders parts of its power to the professional employees. Alone or in small groups, the professional workers are given considerable discretion in their work and will collect a good deal of power. The experts draw power away from the formal authority.¹⁹ In Galbraith's words:

*"Some power will then pass to the person or persons who have this information. If this knowledge is highly particular to themselves then their power becomes very great."*²⁰

One of the roles that collect informal power is the liaison person who is the link between departments or between the firm and a customer. Mintzberg notes:

*"the formal power of these people is often low, but their centrality in workflows usually ensures them considerable informal or political power."*²¹ p. 185

The work of the experts is often a journey of developments involving new tasks, new IT systems, etc. The organization tries to formalize the newly explored changes. It tries to reduce the expertise to easily learned steps so that anyone can do it (in a new IT system, for example). The expert loses power when his changes are set in motion. Mintzberg comments:

*".. the more success the professional support staffer has in helping the organization cope with his specialized kind of change, the more routine that change becomes to the organization, and the less need it has for his particular expertise."*²²

3.d Influence in the Organization

The owners of an organization have a legitimate influence in the firm – but they are not always as powerful as they are supposed to. It depends on whether the owners are involved or not. Mintzberg proposes:

*"... the more involved the owners, and the more concentrated their ownership, the greater their power"*²³

In small-size business where there are no salaried employees, and the management is performed by the owner, the organizations' goals are dominated by the manager-owner.

*Decisions concerning production being ... simple, the whole process is well within the intellectual competence of a dominant stockholder.*²⁴

Large enterprises may be owned by a pension fund or by a corporation quoted on the stock exchange. In such circumstances the single owners can rarely exercise any influence. Instead, they are reduced to the role of detached suppliers of capital in a purely economic relationship with the enterprise.²⁵ Galbraith comments:

*"With growing size and complexity of operation, smaller or more passive owners tend to lose their power of decision. ... Those who are not active in the management of the enterprise have less and less knowledge of what is happening."*²⁶

In large-size business the owners cannot keep all power by themselves, and the technostructure and the management is inevitably taking a share of the power. Galbraith:

With the rise of the modern corporation, the emergence of the organization required by modern technology and planning and the divorce of the owner of the capital from

¹⁹ Mintzberg 1983B p. 164

²⁰ Galbraith 1967 p. 66

²¹ Mintzberg 1983B p. 185

²² Mintzberg 1983B pp. 138, 199, and 206

²³ Mintzberg 1983B p. 34

²⁴ Galbraith 1967 p. 86

²⁵ Mintzberg 1983B p. 36

²⁶ Galbraith 1967 p. 67

*control of the enterprise, the entrepreneur no longer exists as an individual person in the mature industrial enterprise.*²⁷

The Technostructure: If an organization mostly employs salaried employees of the technostructure, it is likely that the technostructure wants to manage by itself, and with good cause. In Galbraith's words, the technostructure requires

*"... a high measure of autonomy. It is vulnerable to any intervention by external authority for, given the nature of the group decision-making and the problems being solved, such external authority will always be incompletely informed and hence arbitrary."*²⁸

The autonomy is protected by the complexity of modern technological and planning decisions. The technostructure may even use this complexity in an internal political game to promote a technocratic system, not because it is good for the organization, but because it extends the power of the technostructure.²⁹

The Line Managers: It is important for the line manager that the whole organization grows, but more important is the growth of one's own unit. Mintzberg quotes Parkinson in saying

*"An official wants to multiply subordinates, not rivals"*³⁰

The Senior Management: The Chief Executive Officer and other senior managers have a certain influence. Mintzberg uses as an example the situation when an organization suddenly has an unexpected surplus. Influencers demand a share of the surplus in accordance with the power they have. If senior managers want to enlarge their share, they must take care not to show their takings too openly to other, more distant influencers:

*"Thus, business corporations that find themselves with large profits seek all kinds of ways to announce only moderate ones, so as not to whet the appetites of unions and tax collectors, not to mention shareholders. They invest in research and in advertising, buy a new corporate jet, redo the executive dining room."*³¹

3.e Whose Goals are Dominating?

The entrepreneur-owner wants profit, a good salary for himself, and to exercise power. In the literature there are many references to Henry Ford's fight to keep in control what he once had founded:

*Through the twenties, thirties and into the forties, Henry Ford, aging and autocratic, became increasingly resentful of the organization without which his company could not be run ... The result for the company was near disaster. Cars were either obsolescent or technically eccentric. Planning, particularly market control, was highly exiguous. ... In the thirties, the company lost money in large amounts. ... [Ford] was defeated despite his complete ownership of the company. On his death, the technostructure was reconstituted by Ernest Breech.*³²

The stockowner wants profit, but not necessarily to gain the profit in *this* company. He may as well sell the stocks and invest elsewhere, as Mintzberg explains:

²⁷ Galbraith 1967 p. 71, and added in a note: "He is still, of course, to be found in smaller firms and in larger ones that have yet to reach full maturity of organization"

²⁸ Galbraith 1967 p. 77

²⁹ Galbraith 1967 p. 80 and Mintzberg 1983B p. 186

³⁰ Mintzberg 1983B p. 129, quoting C. Northcote Parkinson, *Parkinson's Law, and Other Studies in Administration*, Boston: Houghton Mifflin, 1957, p. 33

³¹ Mintzberg 1983B p. 251 ff.

³² Galbraith 1967 p. 90 f., and further: "Ford once prohibited advertising for several years and, ... said that the customer could have any color of car provided it was black."

Thus, when funds are to be invested, while the manager asks only "Now or later?", the shareholder adds "Here or elsewhere?"³³

Goals of the technostructure: If the salaried employees in the organization mostly belong to the technostructure, it is likely that they use their influence to manage by themselves, as we saw above.

Mintzberg states that the technostructure's goals are:

1. Protection and autonomy of the group
2. Enhancement of the prestige and resources of their professional excellence, and
3. Support of the organization's mission, if client-professional relationships are close and personal³⁴

In the citations below, Galbraith explains his version of the goals of the technostructure as:

1. Protection and autonomy of the technostructure
2. To minimize the risk of loss and avoid laying off members of the technostructure
3. To maximize the growth of the firm

In section 3.f below I combine these goals.

Besides describing the goals of the technostructure, Galbraith here explains how the technostructure captures the firm and exchanges the goals of the formal owners with the goals of the technostructure. It is done in a way so that the technostructure's goals are accepted as common goals for the whole society:

*"Specifically, industrial planning requires that prices be under control. ... But this control, naturally enough, is so exercised that it serves the goals of the technostructure. These, we have seen, are first, to **minimize the risk of loss**, and therewith of damage to the **autonomy of the technostructure**, and secondly, to **maximize the growth of the firm**. Prices are so managed as to serve these goals. Price competition with its attendant dangers must be prevented. Prices must be low enough to facilitate the recruitment of customers and the expansion of sales and at the same time high enough to provide earnings to finance growth and keep the stockholders content. These prices are readily reconciled with accepted social goals or what society has been persuaded to accept as goals."³⁵*

He states that one of the main goals of the technostructure is to keep the technostructure growing because it is so sad to say goodbye to one's friends:

*"With the rise of the technostructure, any contraction of output becomes much more painful and damaging. Costs can no longer be reduced simply by **laying off** blue collar workers. A substantial share of total costs are now accounted for by **the technostructure**. If this remains intact, the firm will have a burdensome overhead in the form of a partially employed organization. ...*

Moreover, decisions for curtailment are made within the technostructure itself. They involve its own members. They do not have the agreeable impersonality which is associated with firing someone at a greater distance, or of a different social class. All of these unpleasant contingencies are avoided by expansion. Their avoidance may even justify comparatively unremunerative expansion."³⁶

³³ Mintzberg 1983B p. 124, quoting Gordon Donaldson: "Financial Goals: Management vs. Stockholders," Harvard Business Review, May-June 1963

³⁴ Mintzberg 1983B p. 134, the second sentence is abbreviated from "... enhancement of the prestige and resources of the specialty and professional excellence (sometimes in spite of client need) ..."

³⁵ Galbraith 1967 p. 189, my emphasizing

³⁶ Galbraith 1967 p. 172 f., my emphasizing

The autonomy is protected by technology and planning:

*"The complexity of modern technological and planning decisions also protects the technostructure from outside interference. ... By taking decisions away from individuals and locating them deeply within the technostructure, technology and planning thus remove them from the influence of outsiders."*³⁷

The autonomy is threatened if the firm is showing losses:

*"There remains one final source of danger to the autonomy of the technostructure. That arises with a failure of earnings. ... If a new plant is needed or working capital must be replenished, there will have to be appeal to bankers or other outsiders. This will be under circumstances, i.e., the fact that the firm is showing losses, when the right of such outsiders to inquire and to intervene will have to be conceded. They cannot be told to mind their own business."*³⁸

As time goes by, the organization will turn into a mature organization, and Galbraith notes that the goals of the technostructure will be mirrored in the goals of the organization. The reason for this involvement is that

*"... the corporation also accommodates itself admirably to the needs of the technostructure."*³⁹

This may be the fate of any organization with a certain share of technostructure, regardless of who is the formal owner.

Please note that the idea of common goals for the technostructure does not mean that the members of the technostructure agree in all matters. On the contrary, one may expect disagreement and alliances within the technostructure both inside and outside the organization.

Goals of the senior management: Mintzberg mentions that there are two principal goals for the Chief Executive Officer:

*"This leaves us with two principle goals of the CEO - **survival and growth of the organization**. The two may complement each other: in many circumstances growth is necessary for survival. But they may also contradict: growth can be risky, threatening survival. And so the behaviors of CEOs can range from the conservative, survival-obsessed to the entrepreneurial, growth-obsessed."*⁴⁰

Galbraith mentions that the salary is not the most important. Access to corporate jets and other scarce resources may be more attractive:

*As one moves into and up through the technostructure, men increasingly exercise the option of more work and more income. And some pride themselves on an unlimited and competitive commitment to toil - one that, regularly, outruns even the most imaginative possibilities for the acquisition and use of goods and services."*⁴¹

3.f A Technostructure Synthesis

This leads to a completed definition of the technostructure, its goals and influence (including the three lines from the end of section 3.b):

³⁷ Galbraith 1967 p. 80 f.

³⁸ Galbraith 1967 p. 81

³⁹ Galbraith 1967 p. 161 and 77

⁴⁰ Mintzberg 1983B p. 123, my emphasizing

⁴¹ Galbraith 1967 p. 364 f.

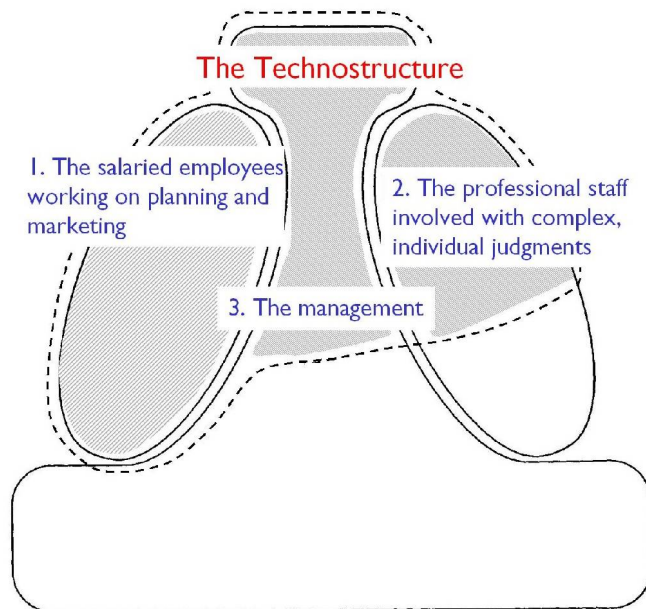


Figure 4: The three parts of the technostructure

1. The salaried employees working on planning and marketing
2. The professional staff involved with complex, individual judgments
3. The management

The technostructure's goals:

- A. Protection and autonomy of the technostructure
- B. To minimize the risk and maximize the growth of the organization
- C. Enhancement of the technostructure's prestige and resources
- D. The top management stresses survival and growth of the organization

The influence of the technostructure on the goals of an organization depends of the technostructure's relative strength to this organization

Reservations: As mentioned in section 1.c there may be a problem in the points of view of the authors. Galbraith describes organizations from an external, political-economical point of view while Mintzberg views organizations from within.

4.The Technostructure Viewed with Morgan's Metaphors

4.a Metaphors and Theories

In *Images of Organization* Gareth Morgan uses metaphors to show organizations in a very imaginative way. His metaphors include organizations viewed as: Machines, organisms, brains, cultures, political systems, psychic prisons, transformation systems, and instruments of domination.

Morgan defines metaphors as *any attempt to understand one element of experience in terms of another*. This has the far-reaching implication for any application of theory, as all theories consist of some kind of generalized experience. It means that *any attempt to understand our environment is employing metaphors*. Further:

- Understanding one element of experience in terms of another is producing a kind of one-sided insight
- Any use of metaphor will always create distortions, and
- Choosing to see through one metaphor becomes a way of not seeing through any other

Metaphors are not to be avoided, however, but it must be clear that no single theory will ever give us a perfect or all-purpose point of view. Instead we can use a range of metaphors to generate complementary and competing insights and learn to build on the strengths of the various points of view.⁴²

Metaphors create ways of seeing and shaping organizational life. Any metaphor can be very persuasive.⁴³ It can also be blinding and block our ability to gain the overall view. The real force of Morgan's approach is to use metaphors in a not-blinding way by employing several metaphors at a time. The challenge is:

*To recognize and cope with the idea that all theories of organization and management are based on implicit images or metaphors that persuade us to see, understand, and imagine situations in partial ways.*⁴⁴

Favoured metaphors tend to trap us in specific modes of action, but on the other hand the insights of different metaphors often support and reinforce each other.

*In using different perspectives to create different modes of engagement we are able to tap into these and understand the same situation in many ways. Some of these may be extremely powerful, because they connect and resonate with the reality being observed.*⁴⁵

This summary of Morgan's metaphors is concerning the technostructure, meaning that I have tried to synthesize all what is relevant for white-collar workers and the management. The amount of text in the sections 4.b to 4.i is around five per cent of Morgan's original text.

4.b The Machine Metaphor

Gareth Morgan nominates Frederick the Great of Prussia as the inventor of the metaphor of *organizations as machines*. He ruled from 1740 to 1786, and he developed an army as a prototype of mechanistic organization. One of his principles was that the Prussian soldiers

⁴² Morgan 1997 p. 4 ff.

⁴³ Morgan 1997 p. 347 ff. See also p. 348: "Management theories tend to sell the positive insights of a metaphor while ignoring the limitations and distortions that it creates."

⁴⁴ Morgan 1997 p. 348

⁴⁵ Morgan 1997 p. 350

should fear their officers more than they should fear the enemy.⁴⁶ There is a direct line from Frederick the Great's ideas to Frederick Taylor.

Scientific management: Frederick Taylor (1856-1915) developed a system he called "Scientific management", a form of industrial engineering that established the organization of work as in Ford Motor's assembly lines. Taylor advocated five simple principles:

1. Shift all responsibility for the organization of work from the worker to the manager
2. Use scientific methods to specify the precise way in which the work is to be done
3. Select the best person
4. Train the worker
5. Monitor worker performance⁴⁷

Taylor's principles had a major influence on the organization of blue-collar work, but also on office work, for example in mechanized systems for processing insurance claim forms in many steps. Taylor's five principles led to the development of "office factories" where people performed fragmented and highly specialized duties in accordance with an elaborate system of work design and performance evaluation.⁴⁸

The perfect bureaucracy: Max Weber (1864-1920) is one of the founders of modern sociology. He defined bureaucracy as a form of organization emphasizing precision, speed, clarity, regularity, reliability, and efficiency achieved through the creation of a fixed division of tasks, hierarchical supervision, and detailed rules and regulations. Although Weber described the perfect bureaucracy, he felt uneasy with it, as it kind of eliminated all human qualities.⁴⁹

Such systems thrive throughout public administration all over the world, as the bureaucracy (ideally seen) treats all citizens alike and (ideally seen) is open for political control.

The strength of the mechanistic approach to organizations is that it works well under conditions when machines, IT systems, and robots work well:

- When there is a straightforward task to perform
- When the environment is stable enough to ensure that the products produced will be appropriate
- When one wishes to produce exactly the same product time and again
- When precision is at premium, and
- When the human "machine" parts are compliant and behave as they have been designed to do⁵⁰

But the mechanistic approach to organizations tends to limit rather than mobilize the development of human capacities, and with the increasing pace of social and economic change, the limitations have become more and more obvious:

- The environment of the organization is perceived as hostile and uncooperative
- Mechanistically structured organizations are not designed for innovation, and the mechanistic divisions between different levels tend to create barriers

⁴⁶ Morgan 1997 p. 15 f. Further, Frederick the Great invented the concept of staff: "To ensure that the military machine was used as wisely as possible, Frederick developed the distinction between advisory and command functions, freeing specialist advisers (staff) from the line of command to plan activities."

⁴⁷ Morgan 1997 p. 23

⁴⁸ Morgan 1997 p. 24

⁴⁹ Morgan 1997 p. 17, 240

⁵⁰ Morgan 1997 p. 27. And: "Under the influence of the same kind of mechanism that has helped make Taylorism so powerful, we often think about and treat ourselves as if we were machines." "Many of us impose forms of Taylorism on ourselves as we train and develop specialized capacities for thought and action and shape our bodies to conform with preconceived ideals." (p. 25 f.)

- Information often gets distorted, as people hide errors and the true nature and magnitude of problems. Those in command of the organization thus frequently find themselves facing issues that are inappropriately defined, and which they have no real idea of how to approach.
- It is difficult to achieve effective responses when there is a high degree of specialization. This may create the kind of powerlessness where each element's actions ends up working against the interests of everybody.
- If new problems arise they are often ignored because there are no ready-made responses, or they are approached in a fragmented way so that they can be managed through existing procedures.
- Supervisors and other hierarchical forms of control do not just monitor the performance of workers - they also remove responsibility from the workers.⁵¹

4.c *The Organism Metaphor*

The metaphor of *organizations as organisms* stem from the Hawthorne studies from around 1930. The idea is that the organization can grow, change, and survive like an organism.⁵²

The metaphor has guided the attention towards issues of the organization's survival, relations to the environment, and organizational effectiveness.⁵³ Here are a number of topics:

- **Relations to the environment:** Systems theorists are fond of thinking about relations both inside and outside organizations. The classical management theorists devoted relatively little attention to the organization's environment.
- **Survival:** The systems theorists focus on the key business processes that the organization must satisfy to survive. The keyword is to organize in a way that meets the demands of the environment.
- **More meetings, less hierarchy:** As an everyday consequence this meant more use of meetings to exchange information and to identify problems so that the work could be coordinated without always going through the formal hierarchy.⁵⁴

Human Resource Management: Abraham Maslow set up a hierarchy with 1. Physiological needs (wages), 2. Security needs (secure jobs), 3. Social needs, 4. Ego needs, and 5. Self-actualizing needs. This suggested that bureaucratic organizations seeking to motivate employees through money or by merely providing a secure job confined human development to level 1 and 2 of the need hierarchy. That was the basis for new theories of motivation and the human resource management school:

*"Much of this theorizing has proved extremely attractive in management circles, for it offered the possibility of motivating employees through "higher level" needs in a way that could increase involvement and commitment without paying more."*⁵⁵

Variety of species: Gareth Morgan mentions Mintzberg's five configurations of organization as expressing "variety of species". He is interpreting Mintzberg's model this way: An effective organization depends on a cohesive set of relations between structural design, the organization's age, size, and technology, and the conditions of its industry.

- **The machine bureaucracy and the divisionalized form** tend to be effective only when tasks and environment are simple and stable. Their centralized systems make them difficult to change.

⁵¹ Morgan 1997 p. 28 ff.

⁵² The concept of "organization" is a metaphor in itself: Regarding a social connection as an organism.

⁵³ Morgan 1997 p. 34

⁵⁴ Morgan 1997 p. 39-45

⁵⁵ Morgan 1997 p. 36 ff.

- **The professional bureaucracy** allows greater autonomy to staff. It has proven to be appropriate for public organizations like hospitals where people with key skills need autonomy and discretion in their work.
- **The simple structure** works well in unstable environments. It is informal and flexible and works well with an entrepreneur, a group of support staff, and a group of operators who do the basic work.
- **The adhocracy** works well in unstable environments like the simple structure. It is an organic form of organization, highly suited for the performance of complex and uncertain tasks. It is frequently used for research and development.⁵⁶

The organism metaphor describes why and how organizations innovate in organic forms. It emphasizes the survival of the organization as a key aim.

The metaphor offers an understanding of the relations between organizations and their environments. However, the analogy should not be pushed too far, as organizations do not offer all harmony and functional unity. Morgan warns:

*"Organizations are very much products of visions, ideas, norms, and beliefs, so their shape and structure is much more fragile and tentative than the material structure of an organism."*⁵⁷

There is also a danger that the organic metaphor comes to serve as a normative guideline and thus becomes an ideology, for example that the human resource management school tends to regard employees as objects to be developed rather than subjects encouraged to choose and shape their own future.⁵⁸

4.d *The Brain Metaphor*

The metaphor of *organizations as brains* is a peculiar one, quite different from other ways of regarding organizations. To be able to employ this metaphor I will introduce four useful ways of understanding how the brain and brain-like organizations are working.

The brain relies on patterns of increasing refinement. This is quite different from most man-made machines that rely on chains of cause and effect.⁵⁹ Experiments with mechanical animals like cockroaches have shown information overload if they are provided with a central "brain". It works better if the animal is provided with distributed information processing on each leg – meaning that the cockroach walks without knowing how it does so – but it has clever legs!⁶⁰

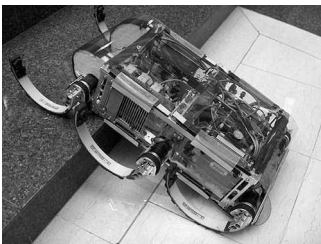


Figure 5: A mechanical cockroach climbing stairs⁶¹

⁵⁶ Morgan 1997 p. 51 f.

⁵⁷ Morgan 1997 p. 69

⁵⁸ Morgan 1997 p. 71. Morgan adds the social Darwinism which stressed that only the fittest would survive, as social life was seen as based on the laws of nature.

⁵⁹ Morgan 1997 p. 74, quoting G.R. Taylor 1979: "The Natural History of the Mind", Harper & Row, New York

⁶⁰ Morgan 1997 p. 76 f.

⁶¹ http://www.wired.com/news/technology/0,1282,68910,00.html?tw=wn_tophead_4

If you use this discovery on the human brain it could be that what we experience as a highly ordered stream of consciousness in fact is the result of a chaotic process with many drafts generated from activity throughout the brain.⁶²

Limited rationality: Herbert Simon argues that most decisions are based on limited rationality, that is, the organization is working like a brain. Organizations can never be perfectly rational because their members have limited information processing abilities:

- People usually have to act on the basis of incomplete information about possible courses of action and their consequences
- They are able to explore only a limited number of alternatives relating to any given decision, and
- They are unable to attach accurate values to outcomes⁶³

Cybernetics: During the 1940's Norbert Wiener developed the theory of artificial intelligence called Cybernetics. One of the findings was that if a system should be able to regulate itself, it should depend on *exchange of information* and *negative feedback*.⁶⁴

From this basis is extracted a theory of communication and learning with four key principles:

1. Systems must have the capacity to sense, monitor, and scan significant aspects of their environment
2. They must be able to relate this information to the operating norms that guide system behavior
3. They must be able to detect significant deviations from these norms, and
4. They must be able to initiate corrective actions when discrepancies are detected (negative feedback)⁶⁵

Later are added three more rules important for double-loop learning:

5. Systems must scan and anticipate change in the wider environment to detect significant variations
6. They must develop an ability to question, challenge, and change operating norms and assumptions
7. They must allow an appropriate strategic direction and pattern of organization to emerge⁶⁶

Holographic principles: Karl Pribram has suggested that the brain functions in accordance with holographic principles, meaning that memory is distributed throughout the brain and can be reconstituted from any of the parts. The holographic evidence favours a decentralized, distributed form of intelligence.⁶⁷ There are five principles:

1. **Build the whole into all the parts:** The organization's visions, values, and culture; structures that reproduce themselves, and diversified roles (the opposite of Taylor's principle of fragmentation)⁶⁸
2. **The importance of redundancy:** Any system with an ability to self-organize must have a degree of redundancy, not redundancy of parts for back-up purposes, but

⁶² Morgan 1997 p. 77, quoting Daniel Dennett 1991: "Consciousness Explained", Little, Brown, Boston.

⁶³ Morgan 1997 p. 78 f.

⁶⁴ Negative feedback can be described as the principle in a house thermostat, or as picking up an object by avoiding not to pick it up, Morgan 1997 p. 84 f.

⁶⁵ Morgan 1997 p. 86

⁶⁶ Morgan 1997 p. 90

⁶⁷ Morgan 1997 p. 75 f.

⁶⁸ Morgan 1997 p. 102-106. Page 101 is the story of a Norwegian shipping company which lost half of its employees as a result of a charter plane crash, including many managers. The company was initially shocked and immobilized, but it was soon able to function very much as before. The remaining staff shared much of the original intelligence of the company and pooled their knowledge. This is quoted from Espen Andersen 1992: "On Organizations as Brains", <http://www.espen.com/papers/orgbrain.htm>

redundancy of functions so that each part is able to engage in a range of functions. Such an organization will possess great flexibility and create capacity for self-organization in all parts of the system.⁶⁹

3. **Requisite variety:** Any control system must be as varied and complex as the environment being controlled. The requisite variety should always fall within the unit in question – not staff-only, if it is needed in the production line. There is a weak spot here, as corporate strategic planning teams often are built around people who think along the same lines.⁷⁰
4. **Minimum specs:** The holographic principles need freedom to evolve. Those working in the organization should focus on *"critical elements, such as the vision or strategy that will guide the unit, expected resource flows, time lines, and anticipated results, and using these to create a broad structure of accountability,"* and avoid setting up precise, bureaucratic rules.⁷¹
5. **Learning to learn:** The holographic design principles must be supported by managerial philosophies that help to create a context that encourages the process of "learning to learn."⁷²

Limited Rationality and IT Systems: Herbert Simon's limited rationality can be avoided by cooperation and IT systems. Under such circumstances the organization increasingly rests within the information system. For example the Japanese Just-In-Time (JIT) systems have transformed the very concept of what it means to be an organization.⁷³

In other IT systems you may end up with vast amounts of centralized data processing, for example Enterprise Resource Planning (ERP) that are based on complex systems where the central data management is related to logistics, production, distribution, finance, sales, and marketing.⁷⁴

Learning Organizations

Single-loop learning is an ability to detect and correct errors in relation to a given set of operating norms. Many organizations have learnt to scan the environment, set objectives, and monitor the general performance of a system in relation to these objectives. The single-loop learning follows the cybernetic rules 1-4 mentioned above. The learning abilities thus defined are limited in that the system can maintain only the course of action determined by the operating norms or standards guiding it.⁷⁵

Double-loop learning (or: learning to learn) depends on being able to take a double look at the situation by questioning the relevance of the operating norms. The double-loop learning should follow all seven cybernetic rules mentioned above. For successful double-loop learning to occur, organizations must develop cultures that support change and risk taking. Paradoxically, it is a process that mobilizes disagreement to create consensus. It can raise high levels of anxiety in an organization, and the process is especially difficult to follow for those managers who want always to be in control.⁷⁶

The obstacles are difficult to pass in bureaucratized organizations, where rules often obstruct the learning process, as bureaucratization tends to create fragmented patterns of thought and action. Different sectors of the organization thus often operate on the basis of different

⁶⁹ Morgan 1997 p. 111

⁷⁰ Morgan 1997 p. 112 f.

⁷¹ Morgan 1997 p. 114

⁷² Morgan 1997 p. 115

⁷³ Morgan 1997 p. 81 ff.

⁷⁴ Morgan 1997 p. 79

⁷⁵ Morgan 1997 p. 86 f.

⁷⁶ Morgan 1997 p. 87, 94, 97

pictures, pursuing subunit goals almost as ends in themselves, giving space for all kinds of power games.⁷⁷

The true potential rests in creating networks of interaction that can self-organize and be shaped and driven by the intelligence of everyone involved.

Some limitations are:

- The brain metaphor is working in a normative way – telling us that it ought to be used also where it is quite inappropriate
- There is a danger of overlooking the realities of power and control
- When the ideally learning organization is realized, many forces of resistance can be unleashed⁷⁸

4.e *The Culture Metaphor*

The metaphor of *organization as culture* is based on agriculture, as the original object to be "cultured" was farm land. Now, culture is defined as

*"... the pattern of development reflected in a society's system of knowledge, ideology, values, laws, and day-to-day ritual"*⁷⁹

The meaning of culture have even developed to mean culture in individual organizations – what I here call "company culture". When regarding "culture" in its newer meanings there are many circumstances that seem obvious. That is because many characteristics of culture rest in the obvious, meaning that it creates a form of "blindness" or ethnocentrism. In providing taken-for-granted codes of action that we recognize as "normal", it leads us to see activities that do not conform to these codes as abnormal. This holds good for both society's and company cultures.⁸⁰

Research as an outsider: A way to see the company culture and subculture is to observe the day-to-day functioning of the group or organization to which you belong, as if you were an outsider, that is: avoid "going native".

Surely, you will find something to wonder at. You will usually find sound historical explanations connected to the organization's knowledge, ideology, values, laws, and day-to-day rituals mentioned above. You should not expect to be able to measure your findings on a scale because culture is a form of lived experience.⁸¹

Many patterns of company culture may be embedded in routine aspects of everyday practice. Many decisions and assumptions are made quite unconsciously. The patterns may have very little to do with the actual company in which they are found, being imported in an invisible way.⁸² You will realize that

*"Organizations are socially constructed realities that are as much in the minds of their members as they are in concrete structures, rules, and relations."*⁸³

⁷⁷ Morgan 1997 p. 88

⁷⁸ Morgan 1997 p. 116 f.

⁷⁹ Morgan 1997 p. 120

⁸⁰ Morgan 1997 p. 121. Morgan calls our attention to the fact that "... in societies where households rather than formal organizations are the basic economic and productive units, work has a completely different meaning and often occupies far less of a person's time." In such societies "the distinctions drawn between means and ends and between occupational activities and other aspects of social life tend to be far more blurred."

⁸¹ Morgan 1997 p. 129, 151 f.

⁸² Morgan 1997 p. 144, 140

⁸³ Morgan 1997 p. 141 f.

The organization and its environment: Using the metaphor of organization as culture it is possible to see that the relations between an organization and its environment are socially constructed, that *"Our environments are extensions of ourselves"*. Gareth Morgan claims that firms organize their environments exactly as they organize their internal operations, and that: *"The beliefs and ideas that organizations hold about who they are, what they are trying to do, and what their environment is like have a much greater tendency to realize themselves than usually believed."*⁸⁴

Example: Imagine two small companies with white-collar workers. Both companies are doing well in terms of surplus, but the company cultures are quite different:

- In company A there are 50 per cent women, a co-operative atmosphere, and nearly all employees leave at 4 p.m. to fetch their children in the kindergarten. New tasks are distributed at meetings during the working-day.
- In company B there are 10 per cent women, a competitive atmosphere, and the most eager employees work late every night. New tasks are distributed by the manager among the eager employees between 5 and 6 p.m. – after the less eager have left to fetch their children in the kindergarten.

The management's way of distributing tasks may be the only reason for these very different cultures.

The company culture develops during the course of social interaction. In turn the culture shapes the character of the company. In this way we must understand culture as an ongoing, proactive process of reality construction. Morgan states:

*"Organizations end up being what they think and say, as their ideas and visions realize themselves."*⁸⁵

Active change of the organization's culture: Company culture is important, and the management should be aware of its development. Some managers and consultants want to use company culture as a manipulative tool. They think and talk about culture at what may be described as "the level of slogans". Then, company culture is often reduced to a set of discrete variables such as values, beliefs, stories, norms, and rituals that can be documented and manipulated in an instrumental way as a kind of "values engineering."⁸⁶

The challenge of creating new forms of organization and management is very much a challenge of cultural change. The fundamental task facing leaders and managers rests in creating appropriate systems of shared meaning. Established practice may be very resistant to change, as cultural change involves the creation of shared systems of meaning that are accepted, internalized, and acted on at every level of the organization. It depends less on what the manager promises and more on what he fulfils.⁸⁷

4.f *The Political System Metaphor*

The metaphor of *organization as political systems* is based on the members' fight for their special interests.

⁸⁴ Morgan 1997 p. 148 f.

⁸⁵ Morgan 1997 p. 137, 126, 140, 145. See also p. 151: "Culture is self-organizing and is always evolving".

⁸⁶ Morgan 1997 p. 143, 150 f.

⁸⁷ Morgan 1997 p. 147, 143, 152, also: "We all construct or enact our realities but not necessarily under circumstances of our own choosing."

Special interests: Sometimes, if not all of the time, there are differences of opinion between the members of any organization. Various members or groups are fighting for their special interests, which is not in the interest of the organization as such.

An organization's politics is most clearly manifest during the conflicts and power plays that sometimes takes place openly, and the rest of the time in the many smaller intrigues in any organizational activity. Morgan's definition:

"Organizational politics arise when people think differently and want to act differently."⁸⁸

Conflict will always be present in organizations. Whatever the reason, and whatever the form it takes, its source rests in some perceived or real divergence of interests. Morgan cites Tom Burns for the opinion that most modern organizations actually encourage organizational politics because they are designed as systems of simultaneous competition and collaboration. People must work together, and they fight each other over resources and career advancements. The conflicts are symbolized in...

"... the hierarchical organization chart, which is both a system of cooperation and a career ladder that people are motivated to climb."⁸⁹

Power: The result of a conflict will mostly depend on the power relations between the actors involved. The actor who has the most power wins. But what is power? Morgan defines power in an ambiguous way, as both a resource and a relationship:

- An asymmetrical pattern of dependence, and
- An ability to define the reality of others in ways that lead them to perceive and enact relations that one desires⁹⁰

Democracy called off: Morgan is skeptical to whether it is possible to manage organizations in a democratically way. Even workers' cooperatives will be led by a management, and that management tends to be autocratic rather than democratic as the power to shape action rests in the hands of a single individual or group, who typically makes all the important decisions.

- All managers feel a certain responsibility for the organization's survival
- This responsibility calls for certain kinds of action that are not always popular with the employees, including the common members of the technostructure
- The system has a logic of its own, and being in charge does not necessarily imply freedom of action⁹¹

Sources of Power

Here is a list of sources of power in organizations. Out of Gareth Morgan's 14 sources I have selected nine that I consider the most important in relation to the power of the technostructure.

"The sources of power provide organizational members with a variety of means for enhancing their interest and resolving or perpetuating organizational conflict."⁹²

1. **Formal Authority:** Morgan sees three sources: Charisma, tradition, and the rule of law. The most obvious type of formal authority in most organizations is bureaucratic and is typically associated with the position one holds. The authority is only effective if it is legitimized from below.⁹³

⁸⁸ Morgan 1997 p. 160

⁸⁹ Morgan 1997 p. 167 f., quoting Tom Burns 1961: "Micropolitics: Mechanisms of Organizational Change." *Administrative Science Quarterly* 6: 257-281.

⁹⁰ Morgan 1997 p. 199

⁹¹ Morgan 1997 p. 155 and 159

⁹² Morgan 1997 p. 171

⁹³ Morgan 1997 p. 172 f.

2. **Control of Scarce Resources:** If the resource is in scarce supply and someone is dependent on its availability, then it can almost certainly be translated into power. If a manager can acquire access to uncommitted resources that can be used in a discretionary way, he can exert a major influence over future organization development and at the same time buy commitment from those who benefit from this use of funds. The idea of stockpiling staff and expertise is a familiar sign of organizational power.⁹⁴
3. **Rules and regulations** are often created, invoked, and used in either a proactive or a retrospective fashion as part of a power play. What, then, is the real significance of the rules? – Well, they are also there to protect their creators. Use of structure, rules, regulations, and procedures may for example include plans for differentiation and integration. The tensions that arise in organizations often entail hidden agendas related to the power, autonomy or interdependence of departments and individuals.⁹⁵
4. **Control of Decision Processes:** Here Gareth Morgan distinguish between three elements: **1. Decision premises:** *"Many of these unobtrusive controls are 'cultural' in the sense that they are built into organizational assumptions, beliefs, and practices about 'who we are' and 'the way we do things around here.'"* **2. Decision-making processes** are more visible. *"The ground rules to guide decision making are thus important variables that organization members can manipulate and use to stack the deck in favor of or against a given action."* **3. Decision issues and objectives** depending on eloquence, command of the facts, eagerness, etc.⁹⁶
5. **Control of Knowledge and Information:** Power fall to the person who can structure attention to issues in a way that in effect defines the reality of the decision-making process. But what is reality? If people define a situation as real, it is real in its consequences. By the simple process of slowing down or accelerating particular information flows, the gatekeeper can obtain considerable power. In this kind of organizational power the finance staff is important not only because it controls resources but because this staff also define and control information about the use of resources.⁹⁷
6. **Control of Boundaries:** Boundaries are here the interface between different elements of the organization. By controlling boundary transactions, people are able to build up considerable power. Many people in leadership positions engage in boundary management seeking to enhance their power. And many people in positions as a secretary, special assistant, or project coordinator may be able to acquire more power than their formal status suggest, simply by determining who will have access to the boss.⁹⁸
7. **Networks and Alliances:** Here is the place for the common people who want to trade help in the present for promises in the future and vice versa. Successful networking and coalition building both involves winning friends and pacifying potential enemies.⁹⁹
8. **Management of Meaning:** Leadership ultimately involves an ability to define the reality of others. Many successful managers and leaders are aware of the power of evocative imagery and give a great deal of attention to the impact their words and actions have on those around them.¹⁰⁰

⁹⁴ Morgan 1997 p. 173 ff.

⁹⁵ Morgan 1997 p. 175 ff.

⁹⁶ Morgan 1997 p. 178 f.

⁹⁷ Morgan 1997 p. 179 f., possibly inspired by this early work: Gibson Burrell and Gareth Morgan 1979: "Sociological Paradigms and Organizational Analysis", London and Exeter: NH. Heinemann

⁹⁸ Morgan 1997 p. 181

⁹⁹ Morgan 1997 p. 186

¹⁰⁰ Morgan 1997 p. 189

9. **The Power One Already Has:** Power is a route to power, because one can often use power to acquire more. Power used in a judicious way takes the form of an investment and, like money, often becomes useful on a rainy day. The presence of power attracts and sustains people who wish to feed off that power. They actually serve to increase the power holder's power.¹⁰¹

One can imagine all kinds of barter between the holders of various sources of power. Some of the participants may wish to trade power in the present for promises in the future (source no. 7) but may end up realizing that the only effect is that they have increased the power holder's power (source no. 9).

Rationality is always political: The metaphor also helps explore the myth of organizational rationality. The questions one should always ask:

- Rational, efficient, and effective for whom?
- Whose goals are being pursued?
- What interests are being served?

An organization embraces many rationalities because rationality is always interest based and thus changes according to the perspective.¹⁰²

Everything becomes political: The political metaphor encourages us to recognize how and why the organizational actor is a political actor. It shows us...

*"... how **all** organization activity is interest based and to evaluate all aspects of organization functioning with this in mind."*

On the other hand there is the danger that when we analyze organizations in terms of the political metaphor it is almost always possible to see signs of political activity. Everything turns into power plays, and one can hardly imagine other ways of regarding the organization.¹⁰³

Method problems: Although the language of organizational theory often presents ideas relating to organizational politics in relatively neutral terms they are by no means as neutral as they seem.¹⁰⁴ Here are some of the problems:

- Is it a general interest or a special interest? It is difficult to say, because it is always the winners that are writing the history, and they will tell that the decision was according to the general interest.
- Power is shown when someone acts openly, but mostly the powerful prefer not to show his power: *"One of the surprising things one discovers in talking with members of an organization is that hardly anyone will admit to having any real power."*¹⁰⁵
- *"The actor who has the most power wins"* This is a truism – you cannot use it to tell who will win until after the battle. It is very difficult to tell who has power unless they use it openly.
- And in general, organizational politics is a taboo subject, which makes it difficult for the members to deal with this part of the organizational reality¹⁰⁶

¹⁰¹ Morgan 1997 p. 198

¹⁰² Morgan 1997 p. 209

¹⁰³ Morgan 1997 p. 209 ff.

¹⁰⁴ Morgan 1997 p. 160

¹⁰⁵ Morgan 1997 p. 196

¹⁰⁶ Morgan 1997 p. 209

4.g *The Psychic Prison Metaphor*

The metaphor of *organization as a psychic prison* promotes a critique of the other metaphors. It deals with unconscious matters, rationality, and powerlessness (where you end up with what you tried to avoid).

Working with the unconscious: The founder of analytical psychology Carl Jung (1875-1961) developed the idea, and Morgan comments on it:

"... the idea that the human psyche is part of a "collective unconscious" that transcends the limits of space and time. Many criticize this aspect of Jung's work as bordering on the occult."

"He believed that full development of self-knowledge and human personality, a process that he described as individuation, rests on a person's ability to recognize the rival elements within his or her personality ... In his view, neurosis and human maladaptation stem from an inability to recognize and deal with the repressed shadow."¹⁰⁷

The patterns of meaning that shape corporate culture may also have unconscious significance, and unconscious projections often have self-realizing effects. An example:

"In organizations that project a team image, various kinds of splitting mechanisms are often in operation, idealizing the qualities of team members while projecting fears, anger, envy, and other bad impulses onto persons and objects that are not part of the team."¹⁰⁸

Working with the organization's unconscious: It is Gareth Morgan's idea that any organization must develop self-knowledge like Jung wanted individuals to develop self-knowledge. If not, then the organization will be trapped in a psychic prison. And if you do not work with the uncontrollable unconscious, it will not be eliminated, but only banished or submerged to a point from where it will reappear later:

"The invisible dimension of organization that we have described as the unconscious can swallow and trap the rich energies of people involved in the organizing process."

"Irrational qualities never accept their banishment idly and are always looking for a way to modify their rational other side."

"It is pointless to develop corporate cultures that thrive on change if underlying preoccupations and concerns are not addressed."¹⁰⁹

Exaggerated rationality: The psychic prison metaphor shows us that we have over-rationalized our understanding of organization. The exaggerations of rationality shows us that rationality often is irrationality in disguise!

"Irrationality is a term for human forces that we cannot order and control. Rationality and irrationality are flip sides of each other, and when one is overemphasized, distortions and dysfunctions inevitably arise."¹¹⁰

Groupthink: Company culture may have prison-like qualities, for example "groupthink". Morgan mentions the CIA-planned invasion at the Bay of Pigs in Cuba 1961. CIA's planning went ahead with a minimum of debate about the core assumptions on which its success

¹⁰⁷ Morgan 1997 p. 239 f.

¹⁰⁸ Morgan 1997 p. 235

¹⁰⁹ Morgan 1997 p. 240 f., 244, 246

¹¹⁰ Morgan 1997 p. 246 f.

depended, and as it failed, it almost led to nuclear war. President Kennedy was quoted for saying: *"How could we have been so stupid?"*¹¹¹

Defense against anxiety: Groups often regress to childhood patterns to protect themselves from the uncomfortable, real world:

*"When a group is fully engaged with a task, its energies ... keep the group in touch with an external reality of some kind. However, when problems ... arise, the group tends to withdraw its energies from task performance and use them to defend itself."*¹¹²

Subcultures: Many subcultural groups provide rallying points for positive ideas and developments that cannot find formal expression elsewhere. As such they offer a hidden reservoir of energy and ideas for mobilizing constructive change.¹¹³

In the following some distortions are ordered according to the previous metaphors:

Distortions of The Machine Metaphor:

"Manufacturing systems perfected throughout the twentieth century locked thousands of North American and European organizations into modes of industrialized inefficiency. Their mechanistic design required the creation of certainty. ... For example, buffer stocks of inventory or work in progress were typically held at different stages of the production process to "protect" one part from another. ... However, these very same buffer stocks that guaranteed the continuous operation of the system perpetuated inefficiency:

- *Buffer stocks create "slack" in a system. They represent unused resources. [machine metaphor] ...*
- *They create the kind of autonomy and space on which politics and empire building thrive [political metaphor] ...*
- *The existence of adequate stocks of high-quality work in process also institutionalizes errors and sloppy work" [machine metaphor]*

The Just-in-time principle removed the slack. When there are no buffer stocks to absorb error, there is no room for error. The Western response was to protect against uncertainty. The Japanese response was to learn from uncertainty and flow with it.¹¹⁴

Further topics:

- The patriarchal family is a factory for authoritarian ideologies, and in many formal organizations one person defers to the authority of another exactly as the child defers to parental rule.
- Morgan states that Frederick Taylor's theory of scientific management was the product of the inner struggles of a disturbed and neurotic personality. Taylor had a neurosis, in fact a productive one!

¹¹¹ Morgan 1997 p. 219 and <http://www.u-s-history.com/pages/h1765.html>. The Bay of Pigs invasion 14-19 April 1961 was intended to provoke popularity for an uprising against Fidel Castro. Instead, it gave Castro a military victory and a permanent symbol of Cuban resistance to American aggression. Eisenhower's administration planned the invasion through CIA, and Kennedy ordered the invasion shortly after his inauguration. The situation was delicate, since the plan was to overthrow a government with which the United States was not at war. Within the first few hours of the operation, it appeared that the invasion would fail. Much to the CIA's surprise, locals firmly supported Castro and the Revolution.

¹¹² Morgan 1997 p. 231 ff. Galbraith remarks that the technostucture needs to be kept busy: "Unlike machinery or plant it disintegrates rapidly if not fully employed", Galbraith 1967 p. 173

¹¹³ Morgan 1997 p. 247 f.

¹¹⁴ Morgan 1997 p. 216 f., my brackets and bullets

- *"Max Weber noted that the more the bureaucratic form of organization advances, the more perfectly it succeeds in eliminating all human qualities that escape technical calculation."*¹¹⁵

Distortions of The Organism Metaphor:

As we invest ourselves in our work, our roles become our realities. Survival is a high priority in organizations, for there is much more than the survival of the organization at stake:

*"The artifacts of culture can be understood as defense systems that help to create the illusion that we are greater and more powerful than we actually are. ... No wonder, therefore, that people are so quick to defend their basic beliefs, even if it means going to war and confronting the reality of death."*¹¹⁶

Distortions of The Culture Metaphor:

Strong corporate cultures can become pathological, if particular excellence prevents them from transforming to meet new challenges. Here is an example of a negative feedback (lent from the brain metaphor):

*"Icarus was the figure in Greek mythology who, flying with his artificial wax wings, soared so close to the sun that the wings melted, plunging him to his death. The power created through the wings ultimately led to his downfall."*¹¹⁷

Morgan compares the Icarus myth with the effect of strong corporate cultures, where victories and strengths of organizations become weaknesses leading to their downfall.

4.h The Flux and Transformation Metaphor

The metaphor of *organization as flux and transformation* is a strange one – imagine the organization as a stable whirlpool in an ever-floating river. If the river is not floating, then there will be no whirlpool and with that no organization.

Are predictions possible? The whole history of organization and management theory is based on the idea that it is possible to organize, predict, and control.

Can we find rules that will predict the emergence of a pattern before it becomes reality? This is a quest that drives much of science and indeed much of the ideology of Western civilization."

Morgan suggests that it is an impossible task because of the complexity of the system:

*"... even though our actions shape and are shaped by change, we are just part of an evolving pattern ..."*¹¹⁸

Forks on the road usually arise around key paradoxes or contradictions that block the way to the future. Systems seldom change gradually – they either choose the old road or a new road. Systems that move away from the influence of a dominant attractor pattern towards a potential new configuration encounter forks on the road (bifurcation points), at which energies for change either dissipate and dissolve in a way that allows the old attractor to reassert itself or shift the system into a new form.

¹¹⁵ Morgan 1997 p. 227, 222, 240

¹¹⁶ Morgan 1997 p. 228 f.

¹¹⁷ Morgan 1997 p. 217, referring to Danny Miller 1990: "The Icarus Paradox", Harper Business, New York

¹¹⁸ Morgan 1997 p. 300. In the final sentence of the chapter he proposes that the wish for prediction and control may be part of a psychic prison!

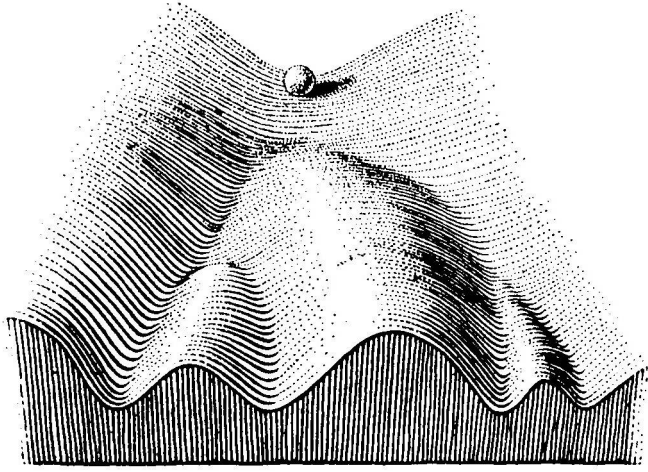


Figure 6: The egg will find its way, but which way? ¹¹⁹

Changes in organizations: New initiatives often generate their negation, and it is difficult to say whether the solution will be the old road or a new one. If no one takes any initiative, it will probably be the old road. Morgan mentions a tricky example:

*"The very act of seeking to empower staff is likely to mobilize awareness of existing modes of control, which, in turn, undermines the drive towards empowerment."*¹²⁰

Kurt Lewin saw that any potential change would be resisted by forces working in the opposite direction. He proposed to carry through a successful change by "unfreezing" an established equilibrium by enhancing the forces driving the change, and then "refreezing" in a new equilibrium state.

The unfreezing period is dangerous for the organization, as the employees realize that the management will not fulfill the old set of promises, but instead provide a new set of promises. An example: Many employees feel less attracted to stay in the organization if their manager leaves. After some months the situation is "frozen" with a new manager, and the employees are not so eager to find a new job anymore.

Relations with the environment: The Chilean scientists Maturana and Varela argue that all living systems are organizationally closed, autonomous systems that reference only to themselves. Pushed to its logical conclusion, the environment is a part of the organization, meaning:

"A system's interaction with its "environment" is really a reflection and part of its own self-production;

Organizations are always ... enacting their environments as extensions of their own identity.

*Many of the problems that organizations encounter in dealing with their environments are intimately connected with the kind of identity that they try to maintain."*¹²¹

4.i The Domination Metaphor

The metaphor of *organization as an instrument of domination* is yet another view of some of the former metaphors, but this time with the exercise of power as a means in itself.

¹¹⁹ Originally from J. Waddington 1957: "The Strategy of the Genes", Allen & Unwin, London, here from Jesper Hoffmeyer 1984: "Naturen i hovedet" (The Nature in your Mind), Rosinante, København

¹²⁰ Morgan 1997 p. 292 f.

¹²¹ Morgan 1997 p. 254, 256. Please note that Maturana and Varela have strong reservations about application of their findings to the social world.

Domination is the result of an asymmetrical distribution of power, and as described in section 4.f, power is an asymmetrical pattern of dependence.¹²²

Domination through rationalization: One of the great attractions of Taylorism rests in the power it confers to those in control. It is as much a tool for securing general control over the workplace as it is a means of generating profit, and in this way the mechanistic principle is an instrument of domination.¹²³

For Max Weber, the logic driving modern society was found in the process of domination through rationalization. He also saw that the pursuit of rationality could itself be a mode of domination. To recognize this we must always ask "*Rational for whom?*"

The kind of domination that most interested Weber was

*"... patterns of formal authority in which rulers see themselves as having the right to rule, and those subject to this rule see it as their duty to obey."*¹²⁴

Max Weber's main concern was to understand how different societies and epochs were characterized by different forms of social domination. He set up a typology of domination:

1. Charismatic domination: A leader rules by virtue of his or her personal qualities
2. Traditional domination: The power to rule by a respect for tradition and the past
3. Rational-legal domination: Power is legitimized by laws, rules, regulations, and procedures

The rational-legal domination rests in power bounded by rules. The administration is typically a bureaucracy where the means of administration do not belong to the bureaucrat. There is a strict separation between private and official income, fortune, and life.¹²⁵

Later, the French sociologist Robert Michels has put forward "The iron law of oligarchy":

*"Modern organizations typically end up under the control of narrow groups, even when this runs against the desires of the leaders as well as the led."*¹²⁶

Gareth Morgan concludes:

*"Even the most rational and democratic forms of organization can result in modes of domination where certain people acquire and sustain a commanding influence over others, often through subtle processes of socialisation and belief."*¹²⁷

The technostructure under attack: The typical members of the technostructure are stressed by the demands of their employers:

- They are likely to suffer from work-related coronary disease, ulcers, and mental breakdown
- Information technology has created an expectation of instantaneous action, even on difficult problems.
- Very often, progress on the career ladder requires frequent change in jobs, often involving moves from one anonymous city to another.¹²⁸

Morgan uses Arthur Miller's "Death of a Salesman" as an example of how organizations use and exploit their employees. The members of "*the primary labor market*" are expected to be

¹²² Morgan 1997 p. 99

¹²³ Morgan 1997 p. 25

¹²⁴ Morgan 1997 p. 303 f., 341

¹²⁵ Morgan 1997 p. 305

¹²⁶ Morgan 1997 p. 306

¹²⁷ Morgan 1997 p. 306

¹²⁸ Morgan 1997 p. 321 ff.

committed and loyal. On the other hand many of them suddenly find themselves in the place of the salesman Willy Loman:

"An increasing numbers of professionals once regarded as a core part of the "primary" labor market are finding themselves working on limited contracts where long-term commitment are neither desired nor possible."¹²⁹

When sacked, those with the most privileged access to important information or with crucial positions in their companies are often those who receive the hardest blow to their self-esteem. Many managers find themselves ending lives of workaholic involvement with their employer as the victims of cutbacks or *"early retirement plans."* And the higher ranking, the more probable that the manager is told to leave immediately.¹³⁰

4.j The Technostructure versus Morgan's Metaphors

After scrutinizing Morgan's eight metaphors is here an analysis of whether the metaphors can provide new aspects on the technostructure. I have extracted seven key topics from the synthesis of the technostructure (from section 3.f):

The technostructure in an organization is composed of:

1. The salaried employees working on **planning** and marketing
2. The professional staff involved with **complex**, individual **judgments**
3. The management

The technostructure's goals:

- A. **Protection** and **autonomy** of the technostructure
- B. To minimize the risk and maximize the growth of the organization
- C. Enhancement of the technostructure's **prestige** and **resources**
- D. The top management stresses **survival** and growth of the organization

The table shows that the seven key topics are covered in five of the metaphors:

¹²⁹ Morgan 1997 p. 307, 312

¹³⁰ Morgan 1997 p. 308

Key Topics	Machine Metaphor	Organism Metaphor	Metaphor Brain	Culture Metaphor	Political System Metaphor	Psychic Prison Metaphor	Flux and Transformation Metaphor	Domination Metaphor
Planning								
Complex judgments								
Protection								
Autonomy								
Prestige								
Resources								
Survival								

The Machine Metaphor:

- **Planning:** The mechanistic principles are used in many planning systems, and the approach makes sense for administration and production when it is IT systems and robots that are the main productive force. But the metaphor cuts both ways, and the members of the technostructure want the interesting, prestige-yielding jobs concerned with planning. They do not want to be moved around like chessmen according to the plan.
- **Protection:** The bureaucratic rules are both used to command others and to protect their creators, as Morgan remarks in section 4.f.
- **Prestige:** As there is a strict, authoritarian channel of command, there is also prestige connected to the members of the technostructure. But again, the channel of command can be used to place the responsibility in unpleasant situations.

The Organism Metaphor

- **Complex judgments:** From section 4.c: *"more use of meetings to exchange information and to identify problems so that the work could be coordinated without always going through the formal hierarchy."* This is in accordance with Galbraith's word on group decision-making in section 3.d.
- **Survival:** From section 4.c: *"The systems theorists focus on the key business processes that the organization must satisfy to survive."*

The Political System Metaphor

- **Protection:** As seen under the machine metaphor above.
- **Autonomy:** From section 4.f: *"The tensions that arise in organizations often entail hidden agendas related to the power, autonomy or interdependence of departments and individuals."*
- **Prestige and Resources:** In section 4.f, *Control of Scarce Resources* is number two on the list of the nine sources of control, and it is further mentioned, that (1) people *"fight*

each other over resources and career advancements", that (2) finance staff is influential because it controls resources and "define and control information about ... resources" – and that (3) power can be regarded as a resource in itself. In this game, the prestige follows the resources.

- **Survival:** Managers use their political power for their special interest in the organization's survival

The list of the nine power sources in section 4.f has far-reaching possibilities for the technostructure:

1. The management has all access to draw from all nine kinds of power sources
2. The salaried employees and the professional staff draw power from their control of decision processes, knowledge, and information (sources no. 4 and 5). As all other members of the organization they have access to these kinds of power: Sticking to the rules (no. 3) and taking part in networks and alliances (no. 7).¹³¹

The Psychic Prison Metaphor

- **Resources:** In section 4.g, buffer stocks represent unused resources
- **Survival:** *"Survival is a high priority in organizations ... No wonder, therefore, that people are so quick to defend their basic beliefs, even if it means going to war and confronting the reality of death."*

The Domination Metaphor

- **Planning:** From section 4.i: *"Taylorism ... is ... a tool for securing general control over the workplace ... and in this way the mechanistic principle is an instrument of domination"*
- **Prestige:** According to Morgan's description, by now both the common salaried employee and his manager are losing prestige, as they risk losing their jobs quite suddenly.

¹³¹ In section 3.a Galbraith defines the technostructure as those *"who bring specialized knowledge ... to group decision-making"* and *"and those who can organize the flow of information"* (power source no. 5). The technostructure *"is an apparatus for group decision"* (source no. 4)

5. Answering the Research Questions

Research question 1:

Is Galbraith's and Mintzberg's technostructure providing a useful description of leadership and development in the modern enterprise?

Answer: Yes, as concluded in section 3.f, a combination of the two authors yields both a useful definition of the technostructure and a useful description of its goals in the modern enterprise.

Research question 2:

Can Morgan's metaphors provide new aspects on the technostructure?

Answer: Yes, as shown in section 4.j, at least five of Morgan's eight metaphors throw new light on the notion of the technostructure.

Whether the technostructure in fact is as strong as J.K. Galbraith maintains cannot be answered here – it depends on an empirical study which could be both interesting and difficult:

- Interesting, because studies of the technostructure and other kinds of business life must include the themes of power and politics. If omitted, the study will be a harmless waste of time.
- Difficult, because empirical studies of power are always difficult to carry through.¹³²

5.a Considerations of Validity

As noted in section 1.c there are no data and no respondents, meaning that it is the validity and reliability that are to be considered. Here is my judgment after the actual study was carried out:

1. Validity: Is this study actually examining what it claims to study? Here are two disputed points:

- As mentioned in section 1.c and 3.f there could be a problem in the points of view of the authors. Galbraith describes organizations from an external, political-economical point of view while Mintzberg views organizations from within.
- There could be a problem due to the fact that Morgan does not use the notion of "technostructure" so that the use of his text in every instance depends on an interpretation whether a white-collar worker etc. in fact is a member of the technostructure.

Answer: Yes, it seems that the study is valid. I have not found reasons to state that the author's disagreements are such that the combinations of their theories are invalid.

2. Reliability: Is the study carried out in a sufficiently exact way? Morgan's idea of using theories is referred in section 4.a:

- *"... it must be clear that no single theory will ever give us a perfect or all-purpose point of view"* and
- *"In using different perspectives to create different modes of engagement we are able to tap into these and understand the same situation in many ways."*

Answer: The study seems to be reliable. The combined theory of Galbraith and Mintzberg is compared to Morgan's eight metaphors. That seems to be a useful approach to understand the same situation in many ways.

¹³² See for example the method problems described in the end of section 4.f

6.Sources and Appendix

6.a Books

Ib **Andersen 2003**: Den skinbarlige virkelighed ("The Incarnate Reality", textbook of social sciences methods), Samfundslitteratur, København

John Kenneth **Galbraith 1967**: The New Industrial State, Houghton Mifflin Company, Boston

Henry **Mintzberg 1979**: The Structuring of Organizations, Prentice-Hall, New Jersey

Henry **Mintzberg 1983A**: Structure in Fives, Prentice-Hall, New Jersey

Henry **Mintzberg 1983B**: Power In and Around Organizations, Prentice-Hall, New Jersey

Gareth **Morgan 1997**: Images of Organization, 2nd ed., Sage Publications, Thousand Oaks.

6.b Internet Sites

<http://www.amazon.co.uk/>

<http://www.espen.com/papers/orgbrain.htm>

<http://www.imaginiz.com/>

<http://www.u-s-history.com/pages/h1765.html>

http://www.wired.com/news/technology/0,1282,68910,00.html?tw=wn_tophead_4

6.c Appendix

Here is a table showing connections between various topics in the excerpts of Morgan's metaphors:

Key Topics	Machine Metaphor	Organism Metaphor	MetaphorBrain	Culture Metaphor	Political System Metaphor	Psychic Prison Metaphor	Flux and Transformation Metaphor	Domination Metaphor
Bureaucracy								
Defining Reality, Rationality, and Efficiency								
Formal authority, Autocracy, and Oligarchy								
Taylorism								
Organizational Change								
Relations to the Environment								
Company Culture								
Organizational Power								