

The same principle applied to management lead to what Taylor called *functional management*. Although Taylor's system was harshly criticized, it is workable and many companies have a *functional* structure. Taylor is also well known as the founder of work study.

## Henri Fayol

Henri Fayol (1841-1925), like Taylor, was also an engineer by training and an efficient manager. He initially worked for a French Mining company, at first as an engineer, then in general management and finally as managing director.

According to Fayol, we could classify all activities in an industrial setting into six classes:

1. <b>Technical activities</b>	dealt with process of production, manufacturing, and adaption of materials into final goods.
2. <b>Commercial activities</b>	dealt with buying, selling and exchange of materials and goods.
3. <b>Financial activities</b>	consisted of the search for and best use of capital.
4. <b>Security activities</b>	were concerned with the protection of property and staff.
5. <b>Accounting activities</b>	included stocktaking, costing and statistical analysis
6. <b>Managerial activities</b>	consisted of planning, organizing, commanding, coordinating and controlling.

Fayol was very unhappy about the over-concentration on the technical aspects of industrial training. Engineers needed training in management and in their own specialist fields. He ascribed the cause to the lack of administrative theory. *Without theory, no teaching is possible*. Fayol felt that the final aim of administrative study should be a collection of principles, rules, methods, procedures, tried and checked by general experience.



Fayol felt very strongly about the principle of *unity of command*, in other words, an employee should receive orders from one superior only. He went on to advocate that overloaded managers should be relieved by staff serving as an extension of the manager's personality. To enable them to function effectively they should be free from the responsibility of running the business.

He was also in favour of informal communications between employees in different departments, as communications through departmental heads were slow and wasteful.

He viewed organisational charts as a precious managerial instrument. This ensures that every employee has a place and sees that he is appointed and functioning in his proper place.

Although Fayol was not as deeply involved in the production process as Taylor, his contribution to management regarding principles such as unity of command, staff specialists, informal relationships and the nature of organizations was very meaningful. These principles are taken up repeatedly in literature of organizations.

### **Max Weber (1864-1920)**

Weber, unlike Taylor and Fayol, had a pure academic background. His work was therefore more descriptive than prescriptive, or a different approach.

Nevertheless, he contributed significantly to the recognition and use of authority. This he classified into three ideal types of authority structures:

<b>Charismatic Structure:</b>	Literally it means <i>gift of grace</i> . A charismatic leader is one who leads by virtue of some exceptional innate quality. Examples would include prophets, warrior-chiefs and heads of religious sects. In other words, managers in this category have overtones of the superhuman and supernatural. The power these leaders have is purely the result of personal charisma.
<b>Traditional structure:</b>	When a charismatic leader dies and his son replaces him, authority becomes part of the leaders' role, not part of his personality. The authority of the leadership role is accepted because of precedent. The strongest justification for an instruction or rule is that <i>things have always been done this way</i> .
<b>Bureaucratic structure.</b>	By this he understood the most efficient form of organization. He also called it <i>rational-legal</i> . Rational because specific objectives were laid down and legal because authority stemmed from a clearly defined set of rules, procedure and roles.  It is important to realize that the word <i>bureaucratic</i> has different connotations to us, which Weber never envisaged.

### Mary Parker Follett – (1868-1933)

Follett studied political science and economics at Harvard and Cambridge.

In her work, she placed greater emphasis on horizontal than on vertical relationships. The chain of command strand should weave with strands and we shall not have the clumsy task of trying to patch together finished webs. It is better for the salesman to work with the line supervisor who manufactures for his part of the market, than it is for the sales and production directors to force cooperation between their departments from the top. Every member of the organization, therefore, shares in the task of coordination as he shares in the responsibility for results.

How people in organizations should be controlled was of great interest to Follett. She criticized the idea of one man controlling another. Both were subject to an impersonal law – the “law” of the situation. Two people should examine the problem and take action as the conditions demand. The head of the sales department does not give orders to the head of the production department, or vice versa. Each studies the market needs and that determines the final decision.

### **Elton Mayo – (1880-1949)**

Mayo trained as a medical student but soon abandoned this to follow his interests in psychology and philosophy. An Australian by birth, he went to the United States and joined the staff of Harvard University, eventually becoming Professor of Industrial Research at Harvard Graduate School of Business Studies.

His best known work is the so-called Hawthorne study conducted in 1927 at the Hawthorne plant of the Western Electric Company, near Chicago. Initially he wanted to examine the effects of fatigue on workers, but he extended this and only five years later he concluded his studies.

**Briefly:** The experiment initially involved five young women engaged on an electrical assembly testing. Over a year and a half various improvements, such as longer rest periods, and reducing the working week, were introduced. Each change brought an increase in hourly output.

After studies with other employees and personal interviews, the explanation of the studies is: first the women formed a closely knit group, they cooperated happily with the researchers and each other. Second they had group norms of willingness and cooperation. Joint consultation and the relaxed nature of supervision caused these before they introduced changes. The operatives were allowed to feel that they were mostly governing their own fate. Thirdly the women became the object of great attention, inside and outside the plant. This affected the pride they took in their work.

The Hawthorne Studies have had a shattering impact on management thinking. The hypothesis that everyone pursues his own individual self-interest, had to be tempered in the light of Mayo’s ‘discovery’ of the informal organization of groups. The importance of workers’ feelings and attitudes clearly distinguished them from machines.

## **Lyndall F Urwick**

In his long and varied career, Urwick gained vast experience in both military and civil organizations. In his many books specialization is a key concept. He has reservations about specialization. He says that because Henry Ford was successful with conveyor belt assembly, people were inclined to exaggerate the advantages of very minute subdivision of processes. He complains that the job can be reduced to a level where it requires no skill or intelligence and then boredom could cause errors. He is therefore very wary of the problems created by overspecialisation.

### **Other (modern) writers**

The work of the following writers is also important to Production Management, EFL Brech, PF Drucker, HA Simon, Douglas MacGregor, Rensis Likert and Chris Argyris.

## **INTRODUCTORY CONCEPTS**

Some concepts that could be considered important in the introduction to production management are:

- Production
- Division of Labour
- Specialisation and Differentiation
- Diversification and Integration
- Simplification Standardization
- Mechanisation and Automation.

Production is the most important concept of all. Questions are, for instance:

- What is the purpose of production?
- What are the basic components of a production system?
- How do we deal with this concept?