The Terminology of Rationalisation and Scientific Management

Rationalisation and scientific management, being studies of relatively recent growth, have not yet acquired a stable and precise terminology; the terms and formulae employed have no clear and uniform definitions, and their use gives rise to wide divergences of interpretation. The lack of precision is bound to create confusion, especially in view of the complex character of the subject matter, and the organisations dealing with these problems, and industrial circles generally, have felt the need for exact definition of the basic terms most frequently employed. The Advisory Committee on Management [1], set up by the Governing Body of the International Labour Office in 1936, discussed the important question of terminology during its second session, on 28 and 29 May 1937, and unanimously adopted a resolution on this subject, urging that the widest possible publicity be given to the work of the Office in this field. It has consequently been decided to reproduce the text of the resolution in these pages, together with a brief commentary extracted from a report prepared by the International Labour Office, which was noted by the Committee without detailed discussion.

Resolution of the Advisory Committee

"The Advisory Committee on Management, at its second session on 28 and 29 May 1937,

"Having duly noted the report prepared by the International Labour Office on the first item on its agenda (the terminology of rationalisation and scientific management),

"Having found that the report enabled it to attain its immediate purpose, which was to draw up exact definitions to facilitate its own discussions;

"But considering also that scientific management is a movement that is sufficiently developed to allow of the drawing up of a basic terminology; that the report is likely to be of value to other groups which feel the need for more exact terminology and which desire to develop their own views on this subject; that a truly international understanding of the problems of scientific management is impossible

[1] This Committee is composed of nine members of the Governing Body (three from each group—Government, employers', and workers' representatives) and six experts, four of whom were appointed on the proposal of the International Committee on Scientific Management.

unless each country develops an equivalent vocabulary in its own language ;

" Requests the Governing Body to authorise the Office to continue its studies of the terminology of scientific management ; to give the widest possible publicity to the proposed definitions, more particularly by transmitting them to the International Committee on Scientific Management to be communicated to the national organisations concerned and to the Seventh International Congress on Scientific Management ; to encourage the translation into the largest possible number of languages of these definitions, which are as follows :

I. Management, Scientific Management.

(a) *Management is the complex of the continuous co-ordinated activities by means of which any undertaking or any administrative or other service, public or private, is conducted.*

(b) *Scientific management is management based on principles and methods that are the outcome of scientific research.*

II. Organisation, ' Organisation scientifique (du travail) '.

(a) *Organisation is the complex of activities the object of which is to achieve the optimum co-ordination of the functions of any undertaking, or any administrative or other service, public or private.*

(b) *' Organisation scientifique ' is organisation based on principles and methods that are the outcome of scientific research.*

(c) *' Organisation scientifique du travail ' is the complex of the co-ordinated actions the object of which is to achieve and maintain the optimum arrangement of work in any undertaking or any administrative or other service, public or private.*

III. Rationalisation.

(a) *Rationalisation in general is any reform tending to replace habitual antiquated practices by means or methods based on systematic reasoning.*

(b) *Rationalisation in the narrowest sense is any reform of an undertaking, administrative or other service, public or private, tending to replace habitual, antiquated practices by means and methods based on systematic reasoning.*

(c) *Rationalisation in a wider sense is a reform which takes a group of business undertakings as a unit and tends to reduce the waste and loss due to unbridled competition by concerted action based on systematic reasoning.*

(d) *Rationalisation in the widest sense is a reform tending to apply means and methods based on systematic reasoning to the collective activities of large economic and social groups.* "

COMMENTARY

Management [1], *Scientific Management*

(1) Scientific research is the essential, determining factor in scientific management. The principal methods are :

observation, with the aid of mathematical treatment (statistics), the graphic presentation of facts, etc. ;

experiment ;

measurement ;

induction, leading to conclusions which enable laws to be formulated and rules to govern their operation to be worked out.

(2) The " principles and methods that are the outcome of scientific research " pervade all the phases of scientific management, which are as follows :

(a) The establishment of *standards*, that is, the optimum solutions of all problems set by the conduct of a business undertaking, such solutions being expressed in standard formulae ; standards are determined in accordance with the principles, laws and rules proceeding from scientific research.

(*b*) *Planning*, which consists in preparation, by the establishment of programmes based on standards, for the future conduct of a business undertaking ; it may extend to the whole activity of the undertaking, or be restricted to certain parts of such activity.

(*c*) *Execution*, which must be in accordance with standards and programmes.

(*d*) *Control*, which consists in recording and measuring results and comparing them with the programmes established on the basis of the chosen standards ; the term also has a wider sense, in which it covers any managerial action resulting from the above.

(*e*) *Co-operation*, which consists in the conscious, voluntary collaboration of the different parts of a business undertaking in the performance of the common task ; its presence is indispensable to the successful use of scientific management as a whole and of each of its factors enumerated above.

(3) Scientific management may be considered an Anglo-Saxon doctrine, conceived in the United States of America and current chiefly in English-speaking countries.

It is for this reason that the English expression has been used in the French as well as in the English version of this international statement on definitions, although it is not yet widely used in the Romance languages (except perhaps through the Italian term *maneggione*).

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[1] The term " management " is also used to denote both the *person* or *persons* responsible for the conduct of an undertaking and the *art* or *science* of conducting undertakings.

This conception, which regards scientific management as the supreme task of the head of the undertaking and views the problem as one of leadership, does not exactly correspond to the conceptions behind the French terms *administration* and *direction*, nor to that of *gouvernement* as defined by Henri Fayol, though this is perhaps the nearest to " management ".

It has been proposed to translate " management " by " *gestion* ", but it was considered that this term, as used in current French, smacked too strongly of bookkeeping.

(4) It should not be forgotten that true scientific management exists solely where all its factors are applied in an appropriately measured and balanced manner; anything unbalanced or out of measure must be stigmatised as " pseudo-scientific management ". If, on the other hand, measure and balance are well and truly observed when the methods of scientific management are applied in an undertaking, the most characteristic results will be : (*a*) in the economic field, elimination of waste and greater output ; (*b*) in the social field, scientific handling of labour conditions (wages, working hours, safety, etc.) and improved industrial relations.

Organisation, " Organisation scientifique (du Travail) " [1].

(1) The words " co-ordination of the functions " refer to the manner in which the systematic distribution and harmonious interplay of such functions are achieved.

The words " scientific research " are explained in the commentary on the definition of " management ".

The words " arrangement of work " mean the manner in which any activity, manual or non-manual, that contributes to the functioning of a business undertaking is prepared, taken in hand, and carried out.

(2) The essential element in genuine organisation is the notion of the optimum, which presupposes measure and balance (see note 4 on " management "). Any organising action which neglects the optimum must be stigmatised as pseudo-organisation ; this often takes the form of over-organisation.

(3) " Organisation scientifique du travail " (scientific organisation of work) has a more concrete meaning than the terms defined in (*a*) and (*b*) ; it is closer to the material activity of the undertaking. This expression is therefore particularly popular among persons whose occupational interests tend to direct their attention to practical questions relating to the execution of the work in the actual undertaking.

In the minds of Taylor's French contemporaries, who were among the first to introduce his doctrines in Europe, this expression was

[1] Literally, " scientific organisation (of work) ". The term " organisation " is also used to denote the result of the " complex of activities ", — that *organic structure* of a business undertaking which permits the optimum co-ordination of work.

originally a translation of " scientific management ". But the very frequent and almost exclusive use made of it in the Romance and Slav languages has caused it to develop so far that it is no longer identical with scientific management, and indeed has now no exact equivalent in English.

Rationalisation

(1) The essential characteristic of rationalisation as a modern movement is its reforming nature.

This is because it developed in a period when men were obliged to reconstruct an economic system which had been worn down by four years of world war. As this need was felt most strongly in the defeated countries, it was natural that rationalisation should be above all a German conception ; indeed it was identified in post-war Germany and other central European countries with all the efforts, individual or collective, towards reorganisation tending to restore the *Wirtschaftlichkeit* (efficiency) of any industry or occupation.

(2) This explains why the term is used most often in central Europe. It is also frequently to be met with in the Romance countries, but very seldom in Great Britain and the British Empire and hardly ever in the United States. When used in the English-speaking countries, its meaning is most often that of definition (*c*) [1] ; the idea defined in (*b*) is usually expressed by " reorganisation " and that defined in (*d*) by " social economic planning ".

(3) The replacing of " empirical, habitual, antiquated practices by means and methods of a more rational nature " has often been taken as meaning exclusively the substitution of machines for men. For this reason rationalisation is identified in many persons' minds with mechanisation ; but such an assimilation may only seem justified when the substitution of machines for men is based on systematic reasoning and supported by scientific research.

(4) In fact, under cover of " rationalisation " old but still efficient means and methods have often been replaced by new means and methods based on incorrect or faulty reasoning and supported by research not genuinely scientific. Reforms of this sort must be stigmatised as pseudo-rationalisation.

(5) Rationalisation is not truly worthy of its name unless the systematic reasoning behind it has taken account not only of economic and technical factors but also of social considerations, and unless the long-term consequences as well as the immediate results are borne in mind.

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[1] Groups of the sort mentioned in definition (*a*) are sometimes established with the sole object of maintaining certain undertakings whether they are economically healthy or not ; such action lacks the constructive element which must characterise all genuine reforms, and therefore cannot be classed as " rationalisation ".