Enterprise Governance and Enterprise Engineering

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2. Mechanistic and Organismic Perspectives on Governance

Two fundamental perspectives on organizing are discussed comprehensively in this chapter, since these perspectives have an all-determining influence on the way governance is perceived and operationalized. It will be shown that the dominant perspective on governance can be related to deep-seated characteristics of Western thought that are deeply ingrained in the Western managerial ‘mental map’. This mental map thus has a high tenacity and impedes the recognition of its limitations. In view of these limitations, the myth of traditional control in enterprises is sketched. Foregoing reflections form the basis for presenting the alternative perspective, which is reminiscent of the contrasting aspects of Eastern thought. As will be illustrated, this perspective centers around employee involvement and their creative, self-initiating potential. Reflections on enterprise productivity, quality, service, and learning and innovation, aim to argue the importance of employee involvement and self-organization. Ultimately, enterprise success – also with respect to governance – rests on employee competencies, even more so within the modern enterprise context. Some fundamental organizational choices are presented. Appreciably, the views outlined in this chapter determine our approach to governance discussed in later chapters.

2.1 Mechanistic Thinking

2.1.1 Characteristics of Western Thought

Four aspects of Western thought are particularly noteworthy regarding the mechanization of governance: reductionism, logic-deductive thinking, rationalism and determinism. Reductionism holds that complex ‘wholes’ can only be understood through knowledge of – simpler – constituent aspects or elements. Conversely, knowledge of parts implies understanding the whole. Closely related is the notion of logical-deductive thinking, which might be viewed as moving rationally from ‘the general to the specific’. This points to rationalism, expressing the belief that reason is the prime source of knowledge and the route to an objectively knowable world. Finally, the notion of determinism boils down ultimately to the belief in identifiable causes that necessitate the current state of affairs, whereas this current state itself – through causal relationships – determines the future state of affairs. These aspects – or modes of thinking – will be reviewed briefly from their historical context in order to appreciate their strong influence, and to illustrate how this thinking is manifest in the governance, design and operation of enterprises.
Appreciably, roots of Western thought can be traced to ancient Greece. One might argue that the search for elemental, primordial building blocks of nature manifests itself in the reductionistic investigative approach to knowledge. Empedocles thought of four basic elements – earth, water, air and fire – while Leucippus and Democritus considered ‘atoms’ as fundamental building blocks. The common theme in Pythagorean thinking about reality was the dominant role attributed to numbers, considered as the origin of all things. As Aristotle is supposed to have said: “Things are numbers” [Dijksterhuis 1986]. Numbers relate to arithmetic and geometry, mathematics in general, areas where true knowledge can be obtained according to Plato. Knowledge refers to ideal archetypical forms or qualities (Ideas) that do not follow from imperfect observations through our senses, which merely give an impression of that ideal world. In other words, “The Ideas are thus the fundamental elements of both an ontology (theory of being) and an epistemology (theory of knowledge): they constitute the basic essence and deepest reality of things, and also the means by which certain human knowledge is possible” [Tarnas 1996, p. 10]. In a reductionistic sense, “The fundamentals of existence are the archetypical Ideas, they constitute the intangible substrate of all that is tangible” [op. cit. p. 12].

Aristotle had a more empirical focus and associated knowledge with concrete objects. Nature should thus be explained in terms of nature itself. In line with the Platonic view, objective knowledge is a priori knowledge, ‘independent’ of the knowing subject. Knowledge thus refers to things ‘as they are’. Hence the inquiring subject can only deduce from truth that ‘already exists’. Within both the Platonic and Aristotelian view true knowledge is based on the logic of deduction [Russell 1967]. This concurs with Parmenides’ “declaration of the autonomy and superiority of the human reason as judge of reality” [Tarnas 1996, p. 21]. Determinism can, for example, be noticed in Aristotle’s theory about moving objects, leading ultimately to a – in itself unmoved – prime mover. Movements are caused by forces transferring potentiality into actual realization. Overall, a typical characteristic of ancient Greek thought was “a sustained, highly diversified tendency to interpret the world in terms of archetypical principles” [Tarnas 1996, p. 3]. As such, “The Greek universe was ordered by a plurality of timeless essences which underlay concrete reality, giving it form and meaning” [op. cit. p. 4].

Building on the ancient Greek intellectual heritage, an enormously influential contribution to the considerable impact of rational, deterministic reasoning comes from the work of the French mathematician and philosopher René Descartes. Through a pure reductionistic process of methodical doubt, assumed truths about the world as it was experienced were reserved as possibly being untrustworthy. Only the act of thinking itself was initially “clear and distinct” and therefore certain. Hence rational thinking as a method of obtaining knowledge gained its primacy. Fundamental truths about the world could thus be discovered via processes of rational thought [Donner et al. 1968, pp. 103–104]. In the words of Descartes, “I wanted to establish any firm and permanent structure in the sciences” [In: Tillman et al. 1967, p. 6]. Descartes set up a number of methodological rules for establishing this firm structure, with the following being of particular
interest. First, never to accept anything as true unless it presented itself as “clear and distinct”. Naturally mathematical axioms satisfied this rule, but the principle of determinism was also seen as clear and distinct, since “Everything must have a cause which is at least as real and perfect as its effect” [In: Beck 1952, p. 62]. Descartes’ second rule exemplified logic-deductive thinking and reductionism since encountered difficulties are to be divided “into as many parts as possible, and as might be required for easy solution” [op. cit., p. 61]. Further, the totality of being can only be understood scientifically by starting with points that are immediately obvious. Hence the complexity has to be reduced. The views expressed by Descartes clearly manifest themselves in the four modes of thinking previously mentioned.

Two basic dichotomies emerged from Cartesianism, namely the separation between mind and body, and between the thinking subject and the world. The influence of these two fundamental reductions of a larger whole in different elements can hardly be overstated. As a consequence of the second dichotomy, the thinking subject and the external world were not seen as dynamically interrelated, but the external world was considered a separate object governed by deterministic laws, and already and forever ‘filled’ with absolute truths awaiting discovery by the rational mind [Luyken 1971]. So, water was ‘already’ H₂O, and we had only to wait for chemistry to tell us that [op. cit.]. It is not the meaning of things which is to be the object of scientific study, but rather their orderly relation as expressed by certain deterministic and mathematical laws. Russell considered Cartesianism as “rigidly deterministic” [In: Donner et al. 1968, p. 104]. Similarly Capra notes, “The mechanistic view of nature is thus closely related to a rigorous determinism” [1991, p. 56]. Further, in line with the Aristotelian view, “Scientific descriptions were believed to be objective, that is, independent of the human observer and the process of knowledge” [op. cit., p. 330].

The distance created by the Cartesian split between the inquiring subject and the world, combined with the need to regain certainty, created a value pattern to investigate and control the world actively. Hence the mechanistic view is considered to be connected to a value pattern to control everything [op. cit.]. Indeed, as Schein notes, central to the Western culture is the value “that nature can be controlled and manipulated” [2004, p. 101]. Since the starting point for acquiring knowledge is the individual subject, being distinct from the surrounding world and other subjects, inevitably the individual subject is centric to all thoughts. Not surprisingly, individualism is considered a typical Western cultural aspect [Hofstede 1986, 1991, Schein 2004].

2.1.2 The Mechanistic Worldview

Causality Everywhere Assumed

According to Auguste Comte’s ‘Three Stages of Knowledge’, after the theological and metaphysical stage, rational and deterministic thinking formed the final and ultimate stage of positive ‘scientific knowledge’ [Beck 1952, p. 123]. Essentially,
the affirmation of objective deterministic relationships gives rise to the ‘machine’ metaphor as the explaining model. Thomas Hobbes argued in his book *Leviathan* (1651) that the conception of reality is bound to be a mechanistic one since the movements of physical objects will turn out to be sufficient to explain everything in the universe. Human beings are considered physical objects, sophisticated machines, all of whose functions and activities can be described and explained in purely mechanistic terms. In a similar vein, the great mathematician Pierre Laplace voiced the ultimate deterministic view that “An intellect which at a given instant knew all the forces acting in nature, and the position of all things of which the world consists – supposing the said intellect were vast enough to subject these data to analysis – would embrace in the same formula the movements of the greatest bodies in the universe and these of the slightest atoms; nothing would remain uncertain for it, and the future, like the past, would be present to its eyes” [In: Capra 1991, p. 57]. Successes of Newtonian mechanics, specifically cosmology, contributed further to an unshakable belief in the mechanistic approach. A striking example might serve as an illustration. Various physicists, such as Copernicus, Brahe and Kepler, contributed to the development of mathematical expressions concerning the movement of celestial bodies. However the movement of Uranus did not satisfy the mathematical laws. Rather than questioning these laws, the odd behavior of Uranus could be explained by predicting the existence of a yet undiscovered planet. The position of this planet was computed and – after telescopic instruments became powerful enough – eventually found at the predicted position [Feynman 1965]. Better evidence for the perceived correctness of the mechanistic approach is hardly conceivable. Since “the physical world was entirely objective, and solidly and unambiguously material, it was inherently measurable” [Tarnas 1996, p. 278]. Investigations thus became predominantly quantitative. Combined with the growing development of mathematics, the whole approach led to an impressive mechanistic cosmological world view [Dijksterhuis 1986]. As a result, the world was supposedly to be seen as an orderly machine, observed by ‘separated’ subjects. Human beings were not only seen as ‘machines’ but the human mind itself was brought within the mechanistic mode of thinking [Turing 1982]. Starting around the early fifties, cybernetic theorists “thought themselves capable of reconciling the world of meaning with the world of physical laws. Thanks to them, the mind would at last find its rightful place in nature” [Dupuy 2000, p. 4].

An exclusive reductionistic and deterministic stance is still advocated. Biologist Edward Wilson for example claims that all real phenomena, from galaxies and planets to people and subatomic particles, are based on material processes that are ultimately reducible to a small number of fundamental natural laws that explain everything. All explanations for everything are causal and all cases are material and reducible to the laws of physics [1998]. As Richard Tarnas observes, the irony of modern intellectual progress is that man’s genius developed theories that are deterministic in nature and thus “steadily attenuated the belief in his own rational and volitional freedom” [1996, p. 332]. The contrast between free will and determinism is one that has dominated philosophy since its beginning.
Influence on Sociological Thinking

These views also influenced the way society was being studied. The underlying paradigm was the belief in an objective world where interactions can be described in causal terms, and where prediction and control are paramount. Comte was therefore looking for “laws of social physics” [Hassard 1993, p. 6]. Laws were to be found via the methods of positive science, based on the principle that true knowledge in the form of law-like relationships between observable phenomena, can only be established via the accurate accumulation of empirical data. Scientific rationality was promoted by Comte as “reasoning and observation combining as the means of knowledge” [op. cit., p. 7]. Hence Comte laid foundations for the positivistic approach to sociology, since “Scientific rationality forms the basis for the regulation of social order” [op. cit., p. 16]. Later, John Stuart Mill advocated the same principle by claiming that “Social sciences should be modeled upon the principles of Newtonian mechanics” [op. cit., p. 8]. Mill clearly expresses a reductionist view by identifying individuals as “basic atoms” governed by the “laws of psychology” from which laws that relate to society can be inferred [op. cit., p. 9]. Also others, such as Pavlov and Skinner, argued that human behavior could also be understood by using the machine metaphor, and using mechanistic principles of stimulus and response [Atkinson et al. 1993]. The cybernetic movement further voiced the belief “that the phenomena of behavior and of mind are ultimately describable in the concepts of the mathematical and physical sciences” [Dupuy 2000, p. 87]. Sociologist Talcott Parsons thus believed that cybernetics “represented the final stage in the unification of the physical and social sciences” [op. cit., p. 155]. In view of the above, not surprisingly, “The widespread hypothesis that all the complexities of human experience, and of the world in general, would ultimately be explicable in terms of natural scientific principles increasingly, if often unconsciously, took on the character of a well-substantiated scientific principle itself” [Tarnas 1996, p. 332].

With reductionistic and deterministic thinking fairly embedded within the social sciences, it became almost inevitable that organizations were, and are, also seen as machines [Morgan 2006].

2.1.3 Mechanistic Thinking Manifest in Enterprises

The Machine Bureaucracy

In the introductory chapter, an enterprise was identified as a complex entity of human endeavor engaged in purposeful activities. As such, enterprises were probably in existence since the beginning of mankind. Generally though, the term enterprise or organization is considered to be of more recent origin, and refers to coordinated production activities at the onset of the industrial revolution more than a century ago, as we will sketch in the next chapter. Although some theorists such as Adam Smith and Charles Babbage addressed issues pertinent to these
coordinated production activities prior to the industrial revolution, the development of the industrial organization as a result of the industrial revolution more thoroughly initiated methodical thinking about enterprises [Niebel 1982].

Three theorists largely dominated this initial thinking: Henri Fayol, Frederick Taylor and Max Weber. Taylor emphasized economic rationality using work analysis resulting in standardized, routine and repetitive tasks [1912]. Around the same time, Fayol published his general principles of management concerning coordination, control and planning, whereby specialization and division of labor are emphasized [1916]. The ideas of Taylor and Fayol exemplify a reductionistic approach focused on the minute division of labor and units of (managerial) control. Other contemporaries followed likewise by studying work efficiency and allowable physical workloads. Of these contemporaries, Frank and Lillian Gilbreth were known for their extensive contribution in the area of time and motion studies [Niebel 1982]. Division of labor was accompanied further by a hierarchical structure with managerial positions as linking pins for – in a deterministic sense – passing down orders and securing worker contributions [Barnard 1938]. Additionally, Weber addressed organizational issues from the sociological perspective, stressing the importance of impersonal relationships and bureaucratic principles [1924]. Types of relationships other than impersonal relationships could impair objective, rational approaches to organizational issues. In line with the instrumental view, bureaucratic structures expressed “the dominance of a spirit of formalistic impersonality”, whereby “the dominant norms are concepts of straightforward duty without regard for personal considerations” [op. cit., p. 15]. Enterprise performance is thus considered to be higher the more employees behave according to formal, predefined work patterns.

Despite their different perspectives, all theories were nonetheless highly congruent in their practical consequences, as well as with respect to their underlying anthropological views. Said theories essentially consider workers as mere production resources, who – according to prevalent anthropological views – dislike work and are only willing to conduct, and capable of conducting, simple tasks under the controlling force of coercive rules and regulations. This perspective is well known as McGregor’s ‘Theory X’ about human resources [1960]. This instrumental approach eliminated employees as a source of ideas and meaningful contributions, as exemplified by the organization of work in simple segmented task structures, resulting in the depersonalization of work itself by a separation of thinking and doing. As Morgan notes, the mechanistic approach “tends to limit rather than to mobilize the development of human capacities, molding human beings to fit the requirements of mechanical organization rather than building the organization around their strengths and potentials” [2006, p. 30].

Other theories also supported or influenced the mindset on enterprise design. We might refer to the economic transaction or exchange theory according to which people are only willing to supply labor in exchange for some economic reward. Based on the fundamental economic principle itself, people will try to satisfy needs with the lowest possible sacrifices, and are guided by self-interested behavior. The transaction view connects neatly with the design of coercive organizational rules and regulations, since workers would try to satisfy financial
needs with the lowest possible effort. According to the agency theory, the relationship between employer (principal) and employee (agent) is to be governed by contracts in order to deal with the different interests of both parties [Pfeffer 1994]. Employment relationships are thus anything but based on trust. Rather, relationships are based on distrust, which further drives the need to regulate and formalize [Locke 1996]. Transaction cost economics merely reduces the relationships within an enterprise to the framework of contracting [Pfeffer 1994]. This fits the requirement for impersonal relations as advocated by Weber. Evidently, these concepts shaped ideas about managerial tasks, which were viewed predominantly in terms of direct control and authority, having to do with explicit task direction, discipline and supervision. In line with the views illustrated above, enterprises are basically seen as ‘machines’, with a clear causal relationship between input and output, whereby employees act as ‘parts’ of the machine. Mintzberg identified organizations designed and operating according to these principles as ‘machine bureaucracies’ [Mintzberg 1989]. Arguably, the traditional mechanistic approach – with a pervasive tendency to control and formalize – contributes strongly to enterprise inertia. Figure 2.1 aims to convey the mechanistic character of the machine bureaucracy.

![Fig. 2.1. The machine bureaucracy [McLennan et al. 1987]](image)

### Underlying Concepts

The characteristic elements of traditional Western thought discussed above are fundamental to these perspectives on organizing, as illustrated. No doubt the whole economic theory is based on the premise of rational decision-making and rational motives. As indicated, the enterprise design advocated by Taylor, Fayol and Weber strongly resembles reductionistic and deterministic thinking. Not so much employee involvement and commitment, but monetary rewards in exchange for work, is seen as the guiding causal and rational principle by which employees act. This assumption is obviously manifest in performance-related pay: linking
individual effort to monetary reward [Lawler 1990]. In a reductionistic sense, work is divided into units of activity governed by detailed rules and instructions that aim to secure causality between tasks and outcome, carried out by employees in an instrumental manner without the need nor the desirability to think. Job descriptions focus on tasks to be executed, rather than on the contribution of individual employees to the overall enterprise purpose.

Reductionism can further be noticed in the form of ‘departmentalism’: the focus on functional units rather than having a process orientation, hence division of labor rather than integration of labor. Departments are evaluated and analyzed in isolation with locally oriented (financial) criteria that inherently ignore and do not support major process and value-added improvements [Kaplan 1990, Brancato 1995]. Seddon speaks of the “management factory” with the focus on internal control, planning, budgets, performance contracts, targets and reporting, whereby the associated information is abstracted from employee work [2005, p. 3]. We will discuss these approaches further in paragraph 2.2. Lack of an integral, unified and holistic perspective results in local ‘gain’ at the higher expense of the larger whole. Fragmentation of knowledge and tasks almost inevitably leads to fragmentation of responsibilities, or even to the absence of any process or overall responsibility at all. As we will argue in Chapter 3, lack of unity and integration – the absence of coherence and consistency among enterprise facets – is the core reason for failing (strategic) enterprise initiatives. The reductionistic mindset treats the enterprise as an isolated entity and obscures seeing the enterprise and its environment as a whole of interrelated aspects.

Rather than seeing the enterprise as organic, dynamic, whole and ambiguous, with relationships that are parallel, simultaneous, connected and interdependent, reality on the contrary is viewed as mechanical, static, segmented and rational [Tsoukas 1994a]. It is assumed that enterprise reality can be captured objectively, and can be controlled and made predictable via structural linear cause and effect chains. Adequate labor output can therefore be arranged via such chains, while enterprise problems can allegedly always be resolved via proper structural measures. Consequently, attempts are made to arrange enterprise effectiveness through the structural perspective, such as the distribution of work. Ultimately, beliefs based on determinism hold that there is a definite sequence of actions that will produce a predefined result, and that the same actions will again give the same results. The dominant views on governance that will be discussed in subsequent chapters plainly reflect these convictions.

Determinism also underlies many of the views on operational planning and strategic planning. Hence the enterprise future is supposedly predictable and controllable through planned activities: causal chains to secure a desired outcome. All too often however, as we will argue further below, the assumed deterministic principle proved to be a fallacy [Hendry et al. 1993, Mintzberg 1994]. Further, determinism seems to drive a short-term orientation, since the shorter the time horizon, the more easily deterministic relationships can be assumed. So enterprise performance is measured in retrospect via a limited set of short-term (financial) parameters that are supposed to predict future performance. Long-term continuous improvements and investments relative to quality, the reduction of throughput
time, the design of new processes, and the development of human resources are often in conflict with short-term (financial) units of measure [Barker 1995]. Notably, in line with the objective world view, the actuality is assumed to be captured through managerial accounting, whereby figures are considered unambiguous symbols truly reflecting enterprise reality. The maxim thereby is greater understanding through greater detail. All too often however, these assumptions are dangerously naïve and counterproductive as we will illustrate in paragraph 2.3.3. One might argue that the two Cartesian dichotomies between mind and body, and between the thinking subject and the world, mentioned earlier, likewise have their enterprise manifestations. The enterprise is viewed as an objective entity that management should manage based on objective enterprise data. Further, the enterprise and its environment are seen as two independent entities: the enterprise delivers products and services to the environment and reacts to stimuli from that environment. These stimuli are considered to exist independent of the enterprise.

As we have sketched earlier, firmly rooted in the principles of Western thought is the concept of logical-deductive thinking as the traditional foundation of knowledge. Particularly influential in this respect is the principle of the ‘exclusive third’, stating that either something is the case, or is not the case. In other words, a statement or proposition is true or not true, excluding a third possibility: ‘tertium non datur’. Equipped with such a dichotomous either-or view, reality is constructed via mutually exclusive concepts. So for example, it is assumed that employee freedom cannot go together with proper enterprise order and control, or that adequate enterprise control would necessarily imply limited flexibility. Control can be either central or decentral. Likewise, you can have either product standardization at low cost, or product customization at high cost. According to Porter, enterprises should have a strategic orientation based on either ‘cost leadership’, or on ‘differentiation’ (offering unique products or services), or based on ‘focus’ (narrow market segments) [1985]. Organizations are not conceptualized as potentially being able to apply seemingly mutually exclusive concepts [Quinn 1988]. Rather than allow holistic, integrative and inductive thinking, simultaneously using apparently contradictory concepts, enterprises are viewed “as full of irreconcilable trade-offs” [Davis 1987, p. 85]. The either-or principle blocks a view of enterprises as being both control and people oriented, seeing people aspects both as ends as well as means, being control oriented while maintaining an adequate level of flexibility, focusing on quality as well as on efficiency, or showing both a human as well as a structural-functionalistic focus.

Detached from the overall purpose, clearly the whole instrumental approach had “the consequence of destroying the meaning of work itself” [Mintzberg 1989, p. 142]. Henry Ford supposedly justified the machine character by stating that “A great business is really too big to be human”. Not surprisingly, central to mechanistic thinking is the tendency to undervalue the human element in enterprises. This results directly from the anthropological and epistemological concepts used, as well as from the resulting management practices and rules and regulations, arranged intentionally to diminish human input by restricting employees to conducting prescribed tasks. Or as Henry Ford is supposed to have stated, “All that we ask of our workers is that they do the work set before them”. In this view,
human aspects are thus by nature subordinated and instrumental to enterprise
goals, while human capacities are considered useful because and insofar as activ-
ities are not yet transferable to machines [Fromm 1955]. One might observe that
the prevailing social, economic and educational conditions at the time Taylor,
Fayol and Weber formulated – and Henry Ford practiced – their views, these
apparent organizational arrangements were effective, and enabled growth in emp-
loyment, productivity and wealth.

The Tenacity of the Mechanistic View

As illustrated, the mechanistic approach exemplifies an instrumentalist view on
human capacities in enterprises. Allowed only fragmented tasks, attempts are
made to make people as consistent and reliable as machine parts, conforming to
the ‘corporate mold’. The whole approach has generated its own justification and
became a self-fulfilling prophecy. Work that requires only mechanical input stifles
creativity and initiative. This absence of mentally-involved employees created a
justification in itself for the existence and continuation of the traditional approach.
Indeed, the traditional mindset still appears to be the prevalent one, fully con-
gruent with the argued roots of mechanistic thinking. As a typical example, the US
Performance and Results Act “requires federal agencies to develop strategic plans,
performance plans, performance measures, annual performance plans and annual
performance reporting”, with a focus on “linking organizational goal-setting and per-
formance measurement to individual planning and appraisal” [US Government
1993]. Apparently, from the top down, the blueprint for the governmental ‘machine’
has been defined. As Doz and Thanheiser observe, “Despite the ‘modernization’
of corporate structures and systems, the mindset of managers appears to have
remained remarkably similar to the Taylorist model developed at the beginning
of the century” [1993, p. 296]. Thus principles that follow from “a machine-like
concept of the organization still dominate managerial practice” [ibid.]. Similarly,
Zuboff and Maxmin state that “Corporations continue to operate according to
a logic invented at the time or their origin, a century ago” [2002, p. 3]. Various
sources corroborate these observations. Documented cases have been published
showing how the traditional mechanistic, top-down ‘command-and-control manage-
ment paradigm’ has led to higher costs and poor service quality [Seddon 2005].
Others have compiled evidence illustrating that traditional mechanistic thinking
has also permeated public institutions such as healthcare, education and govern-
ment [Brink et al. 2005]. Said permeation has perverted these institutions to a
considerable degree. Under the label ‘new public management’ government has
produced its own mechanization with intense focus on measurability, performance
indicators and subsequent output control [op. cit.]. Employees ‘devote’ consider-
able time to generating management-required data in this respect, rather than
devoting attention to the inherent purpose of their job, a situation labeled by
Drucker as “job impoverishment” [1992a, p. 86]. Almost a century after Taylor,
Fayol and Weber, not much seems to have changed. Adherence to the Theory X
outlook mentioned earlier still lingers. Many managers appear to have a negative
image of employees: unwilling to work and only to be coerced through material
stimulation and to be disciplined through control [Brink et al. 2005]. As will become apparent, the governance perspectives that will be discussed in later chapters provide ample evidence of the prominence of mechanistic thinking.

2.1.4 Elements of Eastern Thought

The adjective ‘Western’ in our reflection about the characteristics of Western thought suggests that essentially different characteristics are associated with what can generally be identified as Eastern thought. Numerous publications have shown that to be the case [Libbrecht 1996, Billington 1997, Osborne 2006]. These differences pose a problem for the Western-educated mind to understand Eastern philosophy, given the huge cultural and language differences between the East and the West [Osborne 2006]. Hence we will only briefly address some characteristics of Eastern thought insofar as they enable appreciation of the different views on organizing.

According to Osborne, “Eastern philosophy is a multi-faceted set of ideas that deeply reflect the complex societies they grew out of” [2006, p. 4]. There are many schools of thought that have their origin in ancient India and China. Characteristic for Indian thought are Hinduism and Buddhism. Their common aspect is seeking enlightenment through self-discovery. The word ‘Buddha’ means ‘the awakened one’ [Billington 1997, p. 51]. The world is permeated with suffering, not just seen as pain or sorrow, but (also) as dissatisfaction and unfulfillment. Enlightenment is sought since the ability of the world to satisfy human needs and escape from suffering is only temporal. While Hinduism can be seen as a collection of mythological and socio-religious thoughts, Buddhism is more concerned with the practical aspects – a rule of life – about alleviating the perils of human existence [Libbrecht 1996, Billington 1997]. Buddhism spread to other countries, among them China, where an important school became known as Zen. Zen Buddhism also became important in Japan. In addition to Zen Buddhism, two other strands of Chinese thought can be mentioned: Confucianism and Taoism. Specifically within our scope of interest – the influence of Eastern thought on ways of organizing – both Confucianism and Taoism are of primary concern.

We have seen that a typical characteristic of Western thought is the assumption of an objectively knowable world. Science should reveal objective truths – hence the growth of knowledge – that already ‘exist’ independently of the investigating subject, but merely had to be discovered. Interestingly, the Greek word theōrein means ‘distant, not involved observing’ [Libbrechts 1996]. The word ‘theory’ in Western thought expresses this distance. Unlike the Western, objective view, the Eastern view sees knowledge as tacit, subjective and intuitive [Nonaka and Takeuchi 1995]. This latter type of knowledge is difficult to acquire systematically and logically. Contrary to the Cartesian split, tacit knowledge is integrated and emphasizes the oneness of mind and body [op. cit.]. As we have sketched, Western epistemology holds that knowledge can be obtained by reductive and deductive reasoning, and that absolute truth can be deduced from “rational reasoning grounded in axioms” [op. cit., p. 21], whereby the thinking self is separated...
from the objective world, as indicated above. Nonaka and Takeuchi indicate that
this form of Cartesian rationalism can hardly be found in Japan. Japanese thinking
includes the “oneness of humanity and nature” [op. cit., p. 27], and is based on the
view that “True knowledge cannot be obtained by theoretical thinking but only
through one’s total mind and body” [op. cit., p. 30]. Disfavoring theoretical think-
ing can be traced back to Zen Buddhism, which is typical of Japanese thought,
rejecting intellectual effort as a way to finding enlightenment [Billington 1997].

Eastern thought is noticeably more concerned with ‘the whole’, hence the
Eastern search for knowledge has always been more holistic: “Eastern thought
resolutely believes in the interconnectedness of all things and the need to escape
from the limits of individualism” [Osborne 2006, p. 16]. The integrated, holistic
view asserts that the wholeness of knowledge cannot be reduced to the summation
of knowledge about smaller parts [Locke 1996]. Reductionism thus seems a
typical characteristic of Western thought.

Within Chinese thought, obtaining knowledge refers to the Tao (the ‘way’).
This difficult concept is understood mostly as the way of man: an outline of moral
behavior, but the concept also has a metaphysical meaning as “the all-embracing
origin of all things” [Billington 1997, p. 90]. Followers of the Tao practice the
essence of the Tao philosophy: “to lose the sense of ego in union with the Tao”
[op. cit., p. 102]. Following the right path is manifest through deeds. In that sense,
the Tao is about practicing life itself [Libbrecht 1996]. Gaining knowledge is not
about accumulating facts, but about elevating human nature [Osborne 2006].
Distinct from the Western focus on how things are – their being – the Eastern
tradition focuses on change and growth, hence focuses on becoming. Associated
with this distinction seems the observation that within Chinese physical thinking
the concept of waves dominated, rather than atoms [Needham 1982].

Chinese thought tends to be ‘both-and’, rather than ‘either-or’ [Billington 1997].
Taoists did not consider logical reasoning as important. Other than the Western
logical, rational, either-or thinking previously mentioned, anti-rational elements
are identified for example as characteristics of the Japanese culture, such that
logical consistency is not valued, while “The notion of ‘objectivity’ does not exist”
[Locke 1996, p. 273]. As the story goes, the words ‘objective’ and ‘subjective’
were foreign to the Japanese language and had to be translated since no words for
these concepts existed [ibid.]. Multiple, even contrasting perspectives are held
simultaneously. Contrary to the ‘mono-optic’ Western view, the Japanese view is
considered to be ‘poly-optic’ [Hampden-Turner and Trompenaars 1994, p. 137].
In accordance with the Taoistic viewpoint, knowledge appears to be more related
to the process of acquiring knowledge, than to establishing a singular fact [op. cit.,
p. 138].

Various writers have identified the influence of Confucianism [Withane 1991,
Jacobs et al. 1995]. This philosophy emphasized social rank and ethics, and
provided guidance for acting towards a good and just society. Confucianism aimed
at the balance between social harmony and individual integrity, with a focus
on (1) social ethics, (2) the virtues of wise rulers, (3) well-governed people,
and (4) family relationships [Osborne 2006, p. 95]. It is about fulfilling one’s
duty, righteousness, honesty and uprightness, and respect for persons and a sense
of mutuality and loyalty in any relationship, rooted in piety and obedience [Billington 1997]. These views focus more on society than on the individual. Confucianism maintained a system that produced a strong sense for order and relationships. Everybody has his or her place in the societal order, whereby social harmony is achieved if people behave according to position or rank. Whereas the Western mindset is directed to objects and the physical world, with the intention of ordering aimed towards explaining and controlling, the Eastern view is focused on intersubjectivity and social virtue [Kwee Swan Liat 1973, Zürcher 1973, Libbrecht 1996]. Interpersonal actions are therefore not guided by reason, but by social situations [Locke 1996]. Unlike the Western propensity to order and control the world, in the Eastern view the natural order of nature is accepted, in which humans should fit harmoniously [Zürcher 1973, Libbrecht 1996]. Norms and behavior are based on tradition (needed for social stability) and interdependence (needed for social cohesion) [Billington 1997, p. 138].

It seems plausible that the focus on society and its relationships, combined with the Taoistic viewpoint on the process of growth and becoming, would bring forward an organismic, rather than a mechanistic world outlook. Such an organismic outlook has been argued by various writers. Libbrecht speaks about the “organicist” worldview [1996, p. 64]. Comparably, Nonaka and Takeuchi observe that “Most Western views of human relationships are atomistic and mechanistic, [while] the Japanese view is collective and organic” [1995, p. 31]. In a similar vein, Capra notes that “In contrast to the mechanistic Western view, the Eastern view of the world is organic” [1991, p. 24].

Closely related to the processual and organismic view is the Eastern cyclic perspective on time – the Tao rhythms of Yang (e.g. active, expansion, growth, birth) and Yin (passive, recession, decline, death) – as compared to the Western linear concept of time [Billington 1997]. Within the cyclic perspective on the nature of phenomena, there is no search for external causes: the cycle itself brings events forward. Within the Taoist view, change is not the consequence of some external force, but innate in all things and situations [Capra 1991].

Understandably, the views summarized briefly above are expected to be manifest in the arrangement and governance of enterprises. Indeed, a considerable weight of evidence seems to confirm this expectation. Since it is mostly Japanese enterprises which have been investigated, Japanese examples are presented frequently as examples to contrast the Western and Eastern approach to organizing and management.

Given the organismic, rather than mechanistic world outlook within Eastern thought, a similar distinction is expected between Eastern and Western enterprises and their management. According to Morgan, Western management is indeed significantly more mechanistic in orientation than Japanese management [2006]. Comparably, it is argued that the organismic way of organizing is favored in Japan [Locke 1996]. Whereas the American approach treated ‘scientific management’ as objective knowledge to which workers are to be subordinated, the Japanese accepted and involved workers as co-developers determining the way of organizing [Locke 1996]. We will argue the importance of the organismic way of organizing in paragraph 2.4 and show this to be an employee-centric concept.
With reference to the Western value pattern to control, Western management favors the use of specific, planned objectives (e.g. ‘management by objectives’), versus the Japanese use of emerging objectives [Morgan 2006]. Emerging objectives result from learning, hence from new knowledge gained. Rather than via a rational process, “New knowledge is born in the midst of ambiguity and redundancy” [Nonaka and Takeuchi 1995, p. 12]. We recognize the Taoistic (way, process) viewpoint, as well as the viewpoint that change is an innate capacity of things, hence, an innate capacity of enterprises. Japanese management practices are arguably more process (way, path, method) oriented, in comparison with Western management which is more output (bottom-line) oriented. Since processes are a key focal point in the Total Quality Management philosophy, the Japanese success in this area can likewise be appreciated. The notion of ‘emergence’ will be discussed further in paragraph 2.3.5. Specifically related to the rational/planning versus the emerging/learning perspective on strategy development (based in the innate capacity for change), Chapter 3 will indicate that Eastern companies favor the emerging/learning perspective.

The Confucian influence can also be noticed. Congruent with the Confucian view, “Management is the benevolent use of power to foster order and harmony” [Sullivan 1992, p. 76]. Maintenance of the social order is secured further by adhering to certain rites [Jacobs et al. 1995]. The holistic perspective mentioned earlier has also been related to Confucianism as a result of its focus on general rather than specific aspects [Withane 1991]. Employees should thus have knowledge about overall objectives, functions and responsibilities of the organization, rather than focusing on a narrowly-defined specific task domain [op. cit.]. In addition, Confucianism is said to create loyalty, obedience and a work ethic that focuses on cooperation, diligence and learning for the benefit of society [Jacobs et al. 1995]. Rather than ‘competitive-individualism’ [Morgan 2006], harmony follows from avoidance of social strife (team work), worker satisfaction and development [Withane 1991]. Intrinsic motivation is favored, whereby employees express self-satisfaction [op. cit.].

For the Western mind, the characteristics of Eastern thought are puzzling to some extent. For example, the limited attention to logic reasoning and the inclusion of opposing aspects in one unified concept can be hard to comprehend. Nonetheless, within our scope of discussion, the value of these thoughts lies in their practical organizational operationalization, such that they point to a different, and often valuable, way of organizing. For example, as we will illustrate (and have mentioned before), the Western inability to include opposing aspects in one unified concept has led to one-sided, myopic organizational approaches that are detrimental to enterprise performance and the ability to change. Hence, the limits of mechanistic thinking will be discussed in the next paragraphs insofar as they imply dysfunctional consequences for enterprises. The alternative, organismic perspective is promoted to remedy the drawbacks of the typical, mechanistic Western approach. The issue of whether such an alternative approach can be applied successfully within Western organizations will be addressed in Chapter 3. Notably,
in itself this manifests an approach to unite seemingly opposing approaches in a unified concept about governing and organizing enterprises.

As we will also emphasize later, our critical reflection is thus not a plea to disregard the valuable aspects of Western thinking. Much of scientific progress is the result of this type of thinking. Moreover, the depreciative aspects of the traditional Western mindset about organizations, to be discussed in the next paragraphs, do not imply that the characteristics of Eastern thought are without drawbacks. No system of thought is evidently without unfavorable aspects. It is argued for example, that the structure of social order in Eastern cultures created docile obedience since decisions made by persons higher in the social order are not to be questioned because these persons are considered as having ethical integrity, using power correctly [Jacobs et al. 1995]. This type of governance can easily degenerate into paternalism [op. cit.]. Also, the sincerity of loyalty is doubted and considered often no more than “submission to inevitable and not easily assailed managerial power” [Sullivan 1992, p. 72]. Emotional breakdown, or even death as the result of excessive overwork are not uncommon aspects of the intense pressure to conform [Kahn 1991, Sullivan 1992]. Kahn points similarly to the lack of initiatives following from the group focus. So, “Autonomy is not freedom to take initiatives, but to comply with one’s duties within the context of the group” [1991, p. 20]. Conformity and group focus make people predisposed to copy, expressing the lack of creativity. Nevertheless, our focus is not to address dysfunctional aspects of Eastern thought within enterprises, but to address dysfunctional aspects of the dominant Western thought within enterprises. For that, the following critical reflection is the first step.

2.2 Limits to Mechanistic Thinking

Deep-seated characteristics of Western thought have been briefly reviewed to appreciate their considerable impact on thinking about enterprises and their design. This section argues for the importance of a complementary view. The perspectives given below aim to counterbalance the belief in certainty and exactness that underlies many forms of human thinking and action. Examples from other disciplines might relax the belief in predictability based on an assumed existing order, and might also relax the unquestioned validity of an exclusive mechanistic approach towards organizing. References to other disciplines show that certainty is not omnipresent in areas traditionally perceived as showing clear, orderly, unambiguous and deterministic relationships. Examples will also show the likelihood that there is a connection between complexity and multiple interdependencies on one hand, and uncertainty, indeterminacy, disorder and ambiguity on the other. These complementary views should have a significant – if not paradigmatic – impact on the design of enterprises.
2.2.1 Uncertainty and Interconnectedness

The ‘Hard’ Sciences

Limits to causal, deterministic principles and the presence of uncertainty, disorder or chaos, are manifest in physics and mathematics. To start with the latter, uncertainty has been encountered even in formal mathematical logic, since Gödel argued conclusively that even within consistent axiomatic mathematical structures, it is possible to formulate mathematical propositions correctly that can neither be proven nor rejected [Nagel and Newman 1958, Hofstadter and Dennet 1982]. This uncertainty shakes mathematical foundations since any formal consistent mathematical system is “limited to the amount of truth” it is capable of delivering [Casti 1990, p. 279]. Notably, the two-level either-or logical conviction denies the conditions described by Gödel.

A well-known example of uncertainty in physics is expressed by Heisenberg’s uncertainty principle, stating that fundamental uncertainty exists about the position and impulse of moving objects. At the atomic micro level, rather than exact descriptions of elementary particles behavior, this uncertainty implies that only probabilities exist [Alonso and Finn 1968]. As Capra notes, at the atomic and sub-atomic level, certainty is lost. Rather matter has a “tendency to exist”, while events have a “tendency to occur” [1991, p. 68]. Equally fundamental, quantum theory teaches that the Cartesian split between a subject and the world, or between an observer and an assumed objective reality, as discussed in the above, no longer holds. The observer and the observed are interconnected. So, “In modern physics the universe is thus experienced as a dynamic, inseparable whole which includes the observer in an essential way” [op. cit., p. 81]. Unlike the objective impression, this reality is characterized by a “universal interconnectedness of things and events” [op. cit., p. 138]. Ultimately, “participation instead of observation” is the idea in modern physics [op. cit., p. 141].

The Social Construction of Reality and Meaning

The previously mentioned notion about the interconnectedness of the observer and the observed implies that the observer influences the ‘reality’ to be observed. Said phenomenon is also manifest at the social level, since it is argued that reality is “socially constructed” [Berger and Luckmann 1967]. Things are not simply ‘given’. According to Kant, the external world merely provides sensory stimuli (the phenomena). Our mind orders and gives meaning to these stimuli through categories and concepts. We cannot describe the world as it is: things ‘themselves’ (the noumena) are unknowable [Russell 1967, Donner et al. 1968]. In the extreme: our thinking ‘forms’ nature, rather than nature forming our thinking. Humans observe, interpret, try to understand and give meaning to phenomena through concepts (and language) established and agreed through social interaction. People and their contexts are thus not independent entities, but are in a relationship of mutual creation, such that “People are both products of their contexts and participants in the shaping of those contexts” [Hosking and Morley 1991, p. 7]. As
Winograd and Flores emphasize: “Any individual, in understanding his or her world, is continually involved in activities of interpretation. That interpretation is based on prejudice (or pre-understanding), which includes assumptions implicit in the language that the person uses. That language in turn is learned through activities of interpretation” [1987, p. 28]. There is no subject-independent objective knowledge. The fact that Eskimos have many words for different kinds of snow does not mean that these categories of snow are given objectively. Rather, these categories and the associated language are defined through experiences grounded in social interaction. Refuting the possibility of subject-independent knowledge is by no means asserting “that our discourse can deal ultimately only with our subjective thoughts and feelings” [op. cit., p. 51]. There is a ‘consensual domain’ of shared meaning [ibid.]. So, within this consensual domain, the categories of snow, in our example above, have some relationship with ‘reality’ and are not totally arbitrary. This position, advocated by Wittgenstein, takes the middle ground between two philosophical viewpoints. One is labeled as nominalism, and holds that concepts conjured up by the human mind are just names, but do not correspond to an objective reality. The other, contrary view is labeled realism and holds that an objective reality exists, and that reality brings forward the concepts needed for human inquiry to understand reality. So from the middle ground position one can say that “Nature has something to say, but does not determine what we can say” [Hassard 1993, p. 83].

These views likewise hold for social entities like enterprise: “What is real in organizations ultimately depends on human beings that sustain realness” [Morgan 1990, p. 30]. Put another way, the enterprise whole and its elements determine each other mutually. It is this ‘codetermination’ that contributes to complexity and makes the machine metaphor untenable. In other words, no ‘neutral’ form of participating in enterprise activities is thus possible. The notion of ‘contextualism’ expresses “a sensitivity to the interdependence between how things appear and the environment which causes them to appear” [Wheatley 1994, p. 63]. Fully in line with the emphasized holistic enterprise perspective, Hosking and Morley stress that organizing implies simultaneous attention to complex interdependent processes and aspects of reciprocal influence, which cannot be reduced to addressing the supposedly independent contributors in isolation [1994].

**The Enterprise and its Environment: Co-Creation**

Paragraph 2.1.1 sketched that Western thought has created a fundamental dichotomy between the thinking subject and the world. The world is viewed as an objective, independent entity – the ‘world out there’ – of which human inquiries should reveal its facts (truths). This traditional viewpoint is similarly manifest in thinking about enterprises. The enterprise and its environment are seen as two independent entities: the enterprise delivers products and services to the environment and reacts to stimuli from that environment. These stimuli are considered to exist independent of the enterprise. However, an enterprise organizes the environment as part of itself: it chooses the environmental domain of interaction, whereby the nature and number of relationships with its environment co-evolve. Both the
enterprise and its environment must be seen as a unity of mutual relationships. Enterprise evolution is thus always a pattern of co-creation between the enterprise and its environment: enterprises are able to influence the nature of their environment, whereas conversely, their environment shapes the nature of enterprises [Morgan 2006]. Morgan has coined the term ‘egocentric organization’ for an enterprise that sees itself as an ‘autonomous’ discrete entity that merely must survive changes in the environment. This egocentric view is not without danger. Viewing the enterprise and the environment as separate entities fails to recognize that the enterprise also defines the environment from its own position. That environment is thus not objectively given. Only through the co-creation perspective, an enterprise – say a producer of typewriters – can assess the adequacy of the relationships with its environment by noticing the end of life of typewriters, and change environmental conditions such that enterprise survival is safeguarded.

2.2.2 Complexity, Dynamics and Uncertainty

The Inevitability of Uncertainty


![Fig. 2.2. Interrelated variables causing uncertainty](image-url)
A simple linear cause-and-effect relationship can be assumed between an interest rise and the subsequent higher currency value. More complex non-linear relationships might actually exist however. Interest increases will lead to higher costs for borrowing money, which in turn could lead to business decline, unemployment and higher social costs. Unemployment might lead further to reduced overall spending. As such, the resulting inflation could lead to a decrease in the currency value, contrary to the simple assumption. The process might become unstable because of positive feedback due to additional interest increases that are needed to maintain the currency value, causing a repeat of the aforementioned cycle. Other intervening forces can influence the level and direction of feedback, such that causality is lost in complexity. Figure 2.2 shows the possible interdependencies in the example given.

Various other examples have been described showing that uncertainty and indeterminacy are connected inherently to complexity [Bignell and Fortune 1984, Gleick 1988, Senge 1990, Sterman 2000]. “Ambiguity arises because changes in the state of the system resulting from our own decisions are confounded with simultaneous changes in a host of other variables. The number of variables that might affect the system vastly overwhelms the data available to rule out alternative theories and competing interpretations” [Sterman 2000, p. 25].

Dynamics and complexity cause effects and consequences of actions and interventions to be distant in space and time, and often subtle and not obvious [Senge 1990]. So uncertainty, unpredictability and chaos are inherent in complex systems, which are non-linear, open and possessing a high degree of freedom [Vinten 1992]. Assumptions of a cause and effect nature between action and outcome prove invalid since these causal links disappear in the complexity of reality [Stacey 1992, 1993, 1996].

Complex systems have characteristics that form the basis for the ‘law of incompatibility’ stating that as complexity rises, “Precise statements lose meaning, and meaningful statements lose precision” [McNeill and Freiberger 1993, p. 43]. In other words, “As complexity of a system increases, our ability to make precise, yet significant statements about its behavior diminishes until a threshold is reached beyond which precision and significance (or relevance) become almost mutually exclusive” [ibid.]. Put another way, complex systems show ‘emergent’ overall behavior resulting from the interaction of many components. For a large part, the emergent behavior cannot be predicted or even envisioned from knowledge of what each component of a system does in isolation [Casti 1997].

Remarkably, complex systems can show forms of control that create order. Under certain conditions order can emerge via a creative role of self-organizing [Stacey 1992, 1993]. Control in these cases does not therefore follow from a priori defined forms which are based on assumed causality, but rather, control in this case is “emergent control” [Kelly 1994, p. 20]. Such self-organizing phenomena (without an apparent overarching goal) can for example be observed in flows of fluid and gas, dynamic mechanical systems or economics, but also in biology, such as a population’s rate of growth [Gleick 1988]. As we will discuss in paragraph 2.4, emergent control through self-organizing is likewise possible in
enterprises. In that case, an overarching goal (enterprise mission, as well as norms and values) aligns self-organizing activities.

The impact of the views presented by the chaos theory is considerable, even to the extent that this theory is considered “the end of the reductionistic program in science” [Gleick 1988, p. 304]. Appreciating this perspective implies recognition of the importance of a holistic approach instead of a purely reductionistic one [Vinten 1992]. Unlike the implications of the reductionistic view, higher-level complexities cannot be understood from the characteristics of lower-level entities [Kelly 1994].

**Fuzziness**

Contrary to the unambiguous ‘either-or’ logic mentioned in the previous section, the theory of ‘fuzzy logic’ was developed to address the fundamentally present ambiguity and uncertainty in reality [McNeill and Freiberger 1993]. Fuzzy logic has become a valuable tool in the field of engineering and technology, such as in the area of control theory, but has also proved itself very useful in other areas such as staff recruiting, stock market analysis, medical diagnosis and production planning. With reference to the discussion earlier, it is interesting to note that the predominant mode of Western thinking concurs with the observation that Western industries were initially falling behind Japan in applying the fuzzy, non-deterministic logic identified above.

To exemplify the strong Western bias further, as the story goes, the developer of the fuzzy logic theory experienced severe culturally-based opposition, manifest in the rejection of research funds, and the impossibility of publishing ideas in established scientific journals [McNeill and Freiberger 1993]. The existing mental map appeared to be so strong, that professors risked their careers when pursuing the fuzzy logic theory [op. cit.]. Being captive in an either-or pattern of thinking has been shown to have contributed strongly to the growth of hazardous failure conditions ultimately leading to a nuclear accident within the Three Mile Island nuclear power plant [Bignell and Fortune 1984]. With reference to the connection between complexity and uncertainty and ambiguity mentioned earlier, “No message style existed for saying that there was uncertainty”, so “Shades of meaning could not be expressed” [op. cit., p. 19]. The whole socio-technical system “lacked the finesse necessary for transmitting ‘unscientific’ information on likelihoods, possibilities and vague probabilities” [ibid.].

**Enterprises and Uncertainty**

Essentially, as indicated above, uncertainty is associated with complexity. The introductory chapter positioned enterprises as organized complexities that can be seen as complex socio-economic and socio-technical systems of “organized connectedness” [Bignell and Fortune 1984, p. 155]. Many interdependencies between human actors mutually, between human actors and technical systems, and between these systems mutually, play a role. Multiple, dynamic interrelationships thus exist such that the inherent characteristic of an organic structure refers
more to potentials and possibilities, than to predictability [Wheatley 1984]. As Mintzberg notes, “No organization can be so well run, so organized, that it has considered every contingency in advance” [1989, p. 20]. Katz and Kahn similarly observe that “It is impossible to prescribe role requirements precisely and completely or lay down rules with sufficient specificity to cover all contingencies arising in a single week of work of a complex organization” [1978, p. 266]. Enterprises and their context are exposed to, and influenced by, precipitating events, “But no organization – no matter how brilliant, rational, or imaginative – could possibly foresee the timing, severity, or even the nature of all such precipitating events” [Quinn 1999, p. 124]. Hence, enterprise reality cannot be captured completely in causal, cause and effect relationships. Uncertainty is increased further since actors within the enterprise reality (unpredictably) influence the context. As mentioned earlier, reality is socially constructed [Berger and Luckmann 1967, Hosking and Morley 1991]. However, the traditional view depicted the social reality of enterprises as an objective mechanistic reality, with deterministic relationships between various aspects which can be treated as sequential, discrete and independent. Yet as we have pointed out, enterprise reality should be described as an organic, dynamic, and ambiguous reality, where relationships appear to be “parallel, simultaneous, connected, multiple and interdependent” [Bennis 1989, p. 101]. As a result, numerous interactive and interlocked loops of interdependencies exist that bring about uncertainty and emergent behavior. Increase in uncertainty follows further from many sources of dynamics such as resulting from economics, customer behavior, technology progress, competition, suppliers, geopolitical conditions, governmental rules and regulations, environmental conditions, etc. Indeed, a survey among 500 top-managers taught that they qualified the dynamics in their domain of business as high to very high [Prahalad and Krishnan 2003].

Recognizing and accepting chaos, uncertainty and ambiguity offers new, fundamentally different and intriguing perspectives on the meaning of control [Stacey 1992, 1993]. Control in its classical deterministic form seems incommensurable and incongruous with the various patterns of “dynamic interconnectedness” mentioned in the above [Wheatley 1994, p. 23].

Our concluding thoughts are best described in the words of Richard Tarnas [1996, p. 357]:

“The deep interconnectedness of phenomena encouraged a new holistic thinking about the world, with many social, moral, and religious implications. Increasing numbers of scientists began to question modern science’s pervasive, if often unconscious, assumption that the intellectual effort to reduce all reality to the smallest measurable components of the physical world would eventually reveal that which was most fundamental in the universe. The reductionist program, dominant since Descartes, now appeared to many to be myopically selective, and likely to miss that which was most significant in the nature of things”. We feel this myopic perspective likewise holds for the view on enterprises governance and enterprise design.
2.3 The Myth of Traditional Control

Our previous reflections corroborated that the mechanistic mindset dominates enterprise reality, as evidenced by the classical, mechanistic approach to organizing, leading to a tendency to control the enterprise in almost every detail. Seeing the outcome of enterprise governance as the arrangement of activities, conditions and resources – the enterprise design – such that the enterprise becomes more efficient and effective in terms of realizing its goals, the question seems relevant as to whether the mechanistic approach is in fact to be the exclusive or preferred mode of control. The paragraphs below discuss traditional means of control showing the characteristics of mechanistic thought within enterprises, as outlined in paragraph 2.1.3, and argue that much of traditional control is a myth. Some writers have labeled it a “mega myth” [Bijlsma-Frankema and Koopman 2004]. Dee Hock, the founder and former CEO of the Visa credit card company has put it more graphically: “The desire to command and control is a death wish. Absolute control is the coffin” [1999, p. 24]. Other modes of control are thus required. After sketching the myth of traditional control, the alternative perspective on governance will be discussed.

2.3.1 Planning and Performance Targets

Various tools and techniques in the area of work analysis, budgeting and planning have been developed to support the traditional mechanistic way of organizing. Central to mechanistic thinking is the notion of control. Prominent among the methods to effectuate control is planning. Indeed, “Perhaps the clearest theme in the planning literature is its obsession with control” [Mintzberg 1994, p. 201]. Henry Fayol expressed the inherent rigid and mechanistic character of planning by noting “that the very purpose of planning is not to encourage flexibility, but to reduce it” [In: Mintzberg 1994, p. 173]. The predominance of planning is clearly manifest by noting that the majority (≥ 80%) of enterprise change appears to be conducted from the planning perspective, however with little success [Boonstra 2004].

Typical examples of planning techniques are Management-by-Objectives, Program Evaluation and Review Technique (PERT), or the (US Government) Planning, Programming and Budgeting System. Various analytical tools have also been developed for planning optimization and decision making. All these techniques aim at “systematization, routinization and predictability” [Lawrence and Lorsch 1969, p. 161]. However, since complexity, uncertainty and unpredictability are essential aspects of the enterprise environment, as previously argued, experiences with these techniques show the ‘limits to rationality’. As an illustration, examples of an exclusively single-minded application of operation research techniques to aid decision-making have been shown to lead to disastrous results [Mintzberg 1989, Pfeffer 1994, Hoos 2003]. Neither did the Program, Planning and Budgeting System combined with the PERT method introduced for the
development of the Polaris Missile System, reflect the actual activities that occurred. Other sources reported that the Planning, Programming and Budgeting System “failed everywhere and at all times” [Wildavsky, In: Mintzberg 1994, p. 117]. Rather, these planning systems were of symbolic content to foster the myth of control, and secure future external support and funding [Bolman and Deal 1994], hence to secure faith in the “belief of a human destiny subject to intentional human control” [March 1994, p. 65]. Bolman and Deal argued similarly that much of enterprise reality, be it in the form of structures, planning processes, evaluation and review procedures, or management behavior, are largely of symbolic or ritual content to signal the message that things are under control [1994]. Rituals within the enterprise theatre suggest order and predictability, and serve to legitimate actions.

Associated with planning is the use of unit and individual performance targets: planning and targets are the two sides of the ‘control coin’. This connection seems inevitable, since “Planning further influences organizational goals into quantifiable targets, which are necessary for the planning models, especially the setting of objectives at the front and budgeting at the back end” [Mintzberg 1994, p. 192]. Quantification evidently necessitates measuring the assumed objective reality. Measurement reliability is however inherently problematic: enterprise complexity with its massive interrelations and interdependencies make simple cause and effect relationships between unit or personal effort and outcome questionable. All too often targets and their associated measuring lead to undesired behavior: lack of collaboration and narrow-minded focus on satisfying targets. The result is ‘goal replacement’, whereby attention to the real enterprise purpose is diluted in favor of adherence to, and compliance with, unit and personal targets [Kerr 1989]. For example, attention to crime prevention is likely to fade if targets consider the actual number of crimes solved. Similarly, targets for an employment agency on the number of people mediated successfully will tend to shift attention to people that can be mediated easily, thereby drawing attention away from people that really need help. These examples illustrate the counterproductive and perverting effects that are often associated with unit and personal performance targets.

In a true mechanistic stance and instrumentalist view on employees, performance targets are linked frequently to employee monetary reward: performance-related pay as the supposedly causal mechanism for performance delivery. Here too the limits to traditional control are clearly manifest. Enterprise complexity with many interdependencies makes work increasingly less amenable to individual performance-related pay [Lawler 1990]. The effect of goal replacement can sometimes even take on serious forms. Effects of a pilot pay system – which withheld payment for non-completed flights as the result of diversions, returns or cancellations – were reported, whereby flight continuations occurred despite safety concerns [Phillips and McKenna 1996]. The ineffective and counterproductive results of performance-related pay has been argued by many writers [Pym 1973, Deming 1986, Bowles and Coates 1993, Kohn 1993, Evans et al. 1996].

Similar observations can be made from the overall (corporate) enterprise perspective: performance-related pay for executive management is used to secure and enhance enterprise performance. Within the corporate governance perspective,
which will be discussed in Chapter 5, enterprise performance is defined in financial terms to safeguard the interest of shareholders. In a true deterministic stance, payment is believed to drive performance. Causal linkage is thus supposed to be “bolstered by performance measurement systems that accurately and consistently gauge shareholder value creation, and is then reinforced by compensation systems that provide decision-makers with the appropriate incentives to make value-increasing decisions” [Brickly et al. 2005, p. 103]. Here too the limits to mechanistic thinking were manifest since these incentive pay systems did not appear to work. Research did not show any positive correlation between board compensation and various forms of enterprise performance [MacAvoy and Millstein 2005]. For similar reasons to those previously mentioned, performance-related pay at board-level has also been criticized [Brennan 2005].

Goal replacement is clearly manifest: not the capabilities to deliver products and services in a customer-oriented manner – which forms the basis for enterprise economic performance – but an overall economic performance target is the primary and exclusive area of attention. Hence, “It places corporate priorities on financial, not operating, management” [Johnson and Kaplan 1987, p. 200]. The perverting effects of these approaches became clearly manifest through corporate scandals that led to (renewed) attention to corporate governance at the end of the last century. Rightly so, “A clear sense of direction and compelling principles about conduct in the pursuit of it are far more effective than long-term plans and detailed objectives” [Hock 1995, p. 202]. Indeed, “Money motivates neither the best people, nor the best in people. It can move the body and influence the mind, but it cannot touch the heart or move the spirit” [op. cit., p. 253].

2.3.2 Managing People Rather than Process Capabilities

Planning and targets are the mechanistic instruments that supposedly effectuate control. Since enterprise processes deliver products and services, the effectuation of control through unit and personal targets necessarily induces a focus on process output. But it seems intuitively clear that process performance necessitates a focus on the inherent process capabilities, rather than merely the process output. Focus on the latter amounts to saying that paying attention to a car’s speedometer is sufficient for securing the ability to deliver speed, instead of paying attention to the car’s inherent capabilities that deliver speed. The definition of relevant performance indicators about process quality (linked to process capabilities) is evidently important. But results and the capabilities to produce them are two fundamentally different aspects and should not be confused. Hence, as Deming emphasizes, “Focus on outcome is not an effective way to improve a process or activity” [1986, p. 76]. Numerous publications and empirical data have corroborated this fact [Oakland and Porter 1994, Zairi 1994, Eckes 2001, Seddon 2005].

Underlying the attention for individual performance targets is the uncritically adopted assumption that employees are the primary causes of good and poor performance, not the enterprise ‘system’ in which they work [Seddon 2005].
Contrary to this assumption, Deming demonstrates the opposite: 94% of poor performance is the inherent result of the enterprise ‘system’ (common causes), hence is due to the way enterprises operate (their design), whereas only 6% of poor performance is attributable to inadequate employee conduct (special causes) [1986, p. 315]. Nonetheless, people are virtually always held responsible for inadequate enterprise performance. As Sterman observes: “The tendency to blame the person rather than the system is so strong, psychologists call it the fundamental attribution error” [2000, p. 28].

Rather remarkably therefore, the mechanistic approach with the illustrated focus on control – budgets, performance targets, performance reporting, appraisal, etc. – entails management engaged in managing employees who are only marginally responsible for inadequate results. The large area of common causes remains unattended. Put differently, the area that matters most to customers is virtually outside the management scope, as figure 2.3 depicts schematically.

![Fig. 2.3. Causes of poor performance](image)

2.3.3. Management Accounting

Relevance Questioned

The system of managerial control – objectives, planning, unit and personal performance targets, performance reporting, budgets, etc. – rests on data that for a considerable part, if not exclusively, is provided through the management accounting ‘system’, acting as the primary source for management information and decision-making. Notably, since management accounting data does not relate directly to enterprise process capabilities, the use of such data fits the focus on process output perfectly, as criticized in the previous paragraph. As shown in paragraph 2.3.1, output-focused thinking is also manifest at the overall enterprise level, by giving exclusive attention to financial performance criteria.
Mechanistic thinking about enterprise and management accounting are closely interrelated. Not surprisingly, its principles were established at the same time as Taylor, Fayol and Weber formulated their views on organizing (cf. paragraph 2.1.3). Virtually all management accounting practices, such as concerning investments, cost allocations, labor, material, production measures, overhead and departmental performance measures, were developed at the beginning of the last century [Johnson and Kaplan 1987]. Innovation in this area happens to be marginal, since “Virtually no new ideas have affected the design and use of cost management systems” [op. cit., p. 176]. Progress in information system development therefore led merely to historic management accounting being automated.

In view of enhancing quality, productivity, (end-to-end) process capabilities, or shorter time-to-market, traditional management accounting gradually became ineffective and “unable to cope with competitive pressures of today’s global business environment and sustain true continuous improvement and enhance performance” [Evans and Ashworth 1995]. The output focus mentioned previously meant that the horizon of managers “contracted to the short-term cycle of the profit and loss statement” [Johnson and Kaplan 1987, p. 25], and meant that “In most companies return on capital employed, shareholder value or return per employee, became the primary arbiters of top management performance” [Hamel and Prahalad 1994, p. 125]. Although adequate financial performance is ultimately a necessary condition for enterprise survival, the exclusive focus on said performance appears paradoxically not to be the proper way to secure adequate future financial performance [Buttery and Shadur 1991]. The collection of data over decades confirms this observation, since “There is little correlation between profit performance of a business at any given point in time, and what its performance is likely to be in the future” [Brancato 1995, p. 59]. It appears that non-financial performance indicators, such as those concerning product and service quality, process excellence and employee satisfaction, are better predictors for future (financial) performance: “There is a strong correlation between the underlying structure of business measured by non-financial performance measures, and its future performance” [ibid.]. In the chapter about corporate governance it will become similarly apparent that the focus on financial criteria – in view of shareholder interests – is in fact inadequate for safeguarding those interests.

Various authors have argued that traditional accounting is ill-suited to address enterprise complexity with its many dynamic interrelationships and interdependencies, as previously discussed [Brignall and Ballantine 1996, Evans et al. 1996]. Also within the corporate governance debate one refers to “the failure of accounting to count what counts and to provide a meaningful measure of value” [Baylor University 2005, p. 139].

Numerous cases have been documented showing that productivity and quality improvements – established through methods like total quality management, just-in-time, design for manufacturing and flexible manufacturing systems – were not being tracked by traditional accounting systems, nor did these systems support those quality and productivity methods [Belinger and Brinson 1988, Johnson and Kaplan 1987, Shank and Govindarajan 1988, Johnson 1990, Cooper 1990, Goldratt 1990, Koss and Lewis 1993, Barker 1995, Brancato 1995, Goldratt and Cox 2004].
As much as a three-fold difference in productivity among comparably-operating manufacturing plants was obscured by the financial measuring system used [Chew 1990]. Drucker observers that “Traditional cost accounting can hardly justify a product improvement, let alone a product or process innovation. Automation for instance shows up as a cost, but always never as a benefit” [1992a, p. 245]. Further, departmentalism, local sub-optimization, lack of end-to-end process focus and collaboration, as well as the use of questionable and cumbersome cost categories are the typical manifestations of traditional accounting. Erroneous decisions to outsource production were often taken [Johnson and Kaplan 1987]. Similarly in the area of information services, cases have been documented where activities were erroneously outsourced based on misleading accounting data [Lacity and Hirschheim 1993].

In summary, traditional accounting suffers from the following drawbacks: (1) results in local sub-optimization, (2) ignores interconnectivity of various processes and the resulting propagation of increased costs related to the end-product due to non-quality, (3) inadequately only partly measures financial aspects of complex systems, and ignores costs or lost income resulting from, for example, customer dissatisfaction or disloyalty, employee absenteeism and turnover, (4) values human capacities and inherent knowledge inadequately, (5) exerts a short-term outlook which is detrimental to long-term improvements, (6) is frequently irrelevant for direct operational control, and (7) does not support, or tends to impede, the establishment of espoused organizational values and objectives. Johnson and Kaplan reached the inevitable conclusion that most cost accounting and managerial control systems currently applied “are of little use for determining product costs, for enhancing cost control, or for encouraging the creation of long-term economic wealth” [1987, p. 221]. Similarly, Zairi states that traditional accounting systems produce “irrelevant and misleading information” and are “unable to map process performance” [1994, p. 9]. Not surprisingly therefore, traditional accounting might undermine strategic initiatives and distort the very picture about how effectively the initiatives are deployed. Interestingly, Japanese accounting systems are reported to focus on such measurements as “to help to create a competitive future, not quantify the performance of their organizations at this moment” [Hiromoto 1988].

**Remedies?: Activity-Based Costing and the Balanced Score Card**

Various attempts have been undertaken to remedy the drawbacks of traditional accounting. One such attempt is ‘activity-based costing’, a method aimed at better linking cost measurements to enterprise activities and processes [Cooper 1990, 1996]. It is argued that activity-based costing would lead to ‘activity-based management’ [Evans and Ashworth 1995]. Rather than focusing on process output, this would shift attention towards activities within processes, and as such would aid in enhancing performance and continuous improvements. One might argue however, that detailed insight into activities is required for making the approach useful. Hence a machine-like concept, where precise and reliable details about activities and their costs are known, appears to be assumed implicitly. Experiences do not portray an overly favorable picture [Anderson and Young 2001]. Again, complexity
puts limits on this form of control. Precisely because of those limits, a revised approach has been suggested that departs from the detailed focus, and addresses costs on higher aggregated levels [Kaplan and Anderson 2007].

Another attempt to remedy the shortcomings of traditional management accounting is the ‘balanced scorecard’ approach [Kaplan and Norton 1996]. The idea is to provide more integrated business measurement through four areas of attention: (1) the customer, (2) organizational learning and growth, (3) internal business processes, and (4) financial performance [op. cit.]. There appears to be little empirical evidence that enterprises adopting the balanced scorecard approach have gained benefits [DeBusk and Crabtree 2006]. The inherent validity of the concept is also questioned [Azoff 2005]. Various causes play a role, notably the inability to define a meaningful, mutually-related coherent and consistent set of indicators representing the four areas. Formal relationships between the four areas of attention thus remain unclear. This is the inherent consequence of the output-focused approach mentioned earlier without attention to the organizational capabilities that determine output. Put another way, lack of attention to enterprise design makes the ‘defined’ output indicators decoupled from internal organizational capabilities and does not provide insight into the relationship between the four attention areas. Hence governance becomes illusive. Linking the whole approach with performance-related pay further entails the dysfunctional consequences mentioned in paragraph 2.3.1.

2.3.4 Strategy Evolvement

Learning Rather than Planning

Given the prominence of planning, it will come as no surprise that mechanistic thinking assumes that strategy development can also be executed as a planning process. Planning strategy implies seeing management engaged in structured activities leading to a set of strategic initiatives that can be decided upon, and operationalized through budgets, targets and the planning of projects. For the strategic planner life is simple: “The implementation of strategy comprises sub-activities that are primarily administrative. If purpose is determined, then the resources of a company can be mobilized to accomplish it” [Andrews 1999, p. 77]. So, “Corporate strategy is the pattern of decisions in a company that determines and reveals its objectives, purposes or goals, produces the principal policies and plans for achieving those goals, and defines the range of business a company is to pursue” [op. cit., p. 22]. Figure 2.4 depicts the strategic planning notion graphically.

All too often, the input for the structured activities comes predominantly from within the management accounting domain, since this domain supposedly contains data that defines the content of future strategic intent, as exemplified by financial forecasts, budgets and business cases with their financial qualifiers. Novelties will be scarce since “The whole numbers game usually amounts to an exercise in repeating what everyone already knows, geared to the generation of a set of targets
and standards within the context of existing strategies (and ignoring what changes
might take place in an emerging fashion)” [Mintzberg 1994, p. 86]. Hence, such
planning processes rarely (if ever) lead to new directions: “The planning process
overemphasizes financial analysis methodologies that foreclose meaningful stra-
tegic options, encourage short-term attitudes and behavior, drive out potential major
innovations, misdirect resource allocations and actively undercut the enterprise’s
intended strategies” [Quinn, In: Mintzberg 1994, p. 109].

Strategic planning is a fiction: new ideas do not originate through a timetable
of planned activities. We therefore concur with theorists who have rejected the
notion of ‘mechanistic’ strategy development through planning. According to
Stacey, the ambiguity inherent in the complex reality, “exposes much of the
received wisdom of strategic management to be a management fantasy defense
against anxiety” [1993].

Various writers have argued convincingly against portraying strategy develop-
ment as a planned process [Mason and Mitroff 1981, Mintzberg 1994]. Planning
“is a formalized procedure to produce an articulated result” [Mintzberg 1994,
p. 12]. Put another way, planning is about realizing choices already made. Formal
plans are merely a confirmation of strategic decisions already reached through
other informal, bottom-up, intuitive or political processes which are outside the
top-down planning process [Yukl 2002]. Clearly, planning refers to decompo-
sition, while strategy development is about arriving at certain choices and rests
on synthesis and integration, aspects that are difficult to conceive as the result
of analytic planning processes. According to Mintzberg, a planning process is
“formally reductionist in nature”, with the underlying assumption “that analysis
will produce synthesis: decomposition of the process of strategy-making into
a series of articulated steps, each to be carried out as specified in sequence,
will produce integrated strategies” [1994, p. 13]. The whole notion of strategic
planning reflects causal thinking, whereby the enterprise future is subject to an
analytic planning process. Despite uncertainties and indeterminacies abounding,
the planning approach holds “that a phenomenon has been captured because
it is written down, labeled and put in a box, ideally represented by numbers”
[op. cit., p. 54]. It is to confuse real vision with the manipulation of numbers.
In other words, “What are called strategic planning exercises often reduce to the
generation of numbers not ideas – objectives and budgets but not strategies”
[Mintzberg 1994, p. 85]. We will return to the issue of strategy development
in paragraph 3.2 about enterprise development.

Fig. 2.4. The strategic planning view
Strategic Transition Barriers

Apart from the notion that strategic choices cannot be the outcome of a planning process, the planning approach to strategy development assumes further that strategic choices can be implemented in a top-down, planned manner. Both the incapability of a planning process to provide strategic choices, and the unlikelihood of an unproblematic top-down implementation planning can be corroborated further in view of strategic transition barriers formulated by Weil and Broadbent in relation to IT strategic choices [1998, p. 42]. Three barriers are identified: (1) “expression barriers”, that have to do with the inability to articulate clearly and explicitly the strategic direction and goals pertinent to various business, organizational, informational and technology developments, (2) “specification barriers” identifying the inability to specify what the enterprise strategy must specifically accomplish, and (3) “implementation barriers”, which are caused by various (technological) restrictions following from the current enterprise environment, defined by aspects such as the existing rules and regulations, culture or technology.

We might also point to other barriers that the planning perspective ignores [Wit and Meyer 1999]: (4) given the dynamics, complexity and associated uncertainty, the issues facing an enterprise can hardly be captured completely and unambiguously and analyzed such that analysis provides the necessary and sufficient set of further actions, and (5) the planning perspective assumes that implementation of planned actions is context-independent. But plans and their implementation are interactive: they affect one another mutually since plans are not received in a neutral context. Similarly this observation holds for the introduction of rules and legislation, or technology. In view of the complexity of an enterprise, all these barriers are entirely understandable, and are also to be excepted [Ciborra 2001]. We contend that the mechanistic, top-down, planning-oriented approach cannot remove these barriers. As we will illustrate later, the governance competence is crucial for addressing these barriers.

Bounded Rationality

Associated with the planning view on strategy development is the belief in rational decision-making: the strategy is the pattern of rational decisions. Mechanistic thinking upholds the ability to know an objective reality. So issues facing an enterprise are clear, such that rational decision-making can take place. Herbert Simon argued that the simplicity of mechanistic thinking is deceptive, since it is “a simplicity that conceals fundamental ambiguities” [1976, p. 21]. Uncertainty is further amplified due to the limited information available, addressed and processed, leading to a situation identified by Herbert Simon as “bounded rationality” [1976]. According to Simon, enterprise reality is therefore characterized by “limits to rationality” [op. cit., p. 40, p. 108]. Rationality in this sense is “concerned with the selection of preferred behavior alternatives in terms of some system of values whereby consequences of behavior can be evaluated” [op. cit., p. 75]. However, due to the incompleteness of knowledge, the difficulty of
anticipating consequences, the limited view of all possible alternatives, as well as the fact that valuations are often unclear and diffuse, rationality is limited. Nonetheless, despite the acknowledgement of bounded rationality, the notion of rationality is still upheld by Simon. Limited rationality is thus considered more to be a practical issue than a principle one. That might be questioned in many cases. Due to the reasons mentioned earlier, enterprise issues are seldom unambiguously clear, while often habits, intuition or other drivers (management’s scoring urge, politics, or incompetence) preside over rational decision-making.

2.3.5 Emergence

Dynamics, complexity and the associated uncertainty necessitate “adaptability, intuition, paradox and entrepreneurial creativity in the face of an unpredictable, indeed inherently unknowable, future” [Vliet 1994]. Others have drawn attention similarly to the emergent rather than the analytical and planned character of strategy [Hendry et al. 1993, Hellgren and Melin 1993]. Formal planned strategy is considered to be naive in the face of uncertainty, indeterminacy and ambiguity. Rather, strategy emerges in a dynamic interplay with contextual conditions. This implies an incremental development, whereby strategy is constantly readjusted, since it is overtaken by developments outside management’s ability to predict and control [Miller and Dess 1996]. The notion of ‘strategic planning’ is therefore considered an oxymoron. Uncertainty and ambiguity necessitate adopting to emerging, previously unknown environments. Changes as a result of adaptation occur “not because we are planning, but because we are learning” [Stacey 1993, p. 9]. Evidence shows that “learning and visionary approaches appear to be superior to planning for creating strategy” [Mintzberg 1994, p. 270]. As Mintzberg et al. observe, “Above all, learning, in the form of fits and starts, discoveries based on serendipitous events and the recognition of unexpected patterns, plays a key role, if not the key role, in the development of strategies that are novel” [1998, p. 73]. Comparably, enterprise changes that are conducted in a developmental, evolutionary fashion are considerably more successful than those conducted in a planned, top-down manner [Boonstra 2004].

Complexity provides the creative space where “New knowledge is born in the midst of ambiguity and redundancy” [Nonaka and Takeuchi 1995, p. 12]. New order may then emerge from chaos and uncertainty in an unpredictable way through a process of self-organizing, as indicated earlier [Stacey 1993, Wheatley 1994]. Dee Hock – as mentioned earlier, the founder and former CEO of the Visa credit card company – has coined the term ‘chaordic’ from combining the words ‘chaos’ and ‘order’ to identify “any self-organizing, self-governing, adaptive, nonlinear, complex organism, organization, or system, whether physical, biological, or social, the behavior of which harmoniously combines characteristics of both chaos and order” [1999, p. 30].

The self-organizing approach is based on the presence of uncertainty in economic and social systems, making change processes fundamentally undetermined.
With reference to their study about ‘visionary companies’, Collins and Porras shattered the myth that those companies outperformed their competitors as a result of “brilliant and complex strategic planning” [1994, p. 9]. On the contrary, emerging and nomadic characteristics such as experimentation, trial and error, together with opportunism, were connected to their success. However, for years organizational science has been focused on controlling uncertainty, since it is considered a nuisance instead of a creative space [Casti 1997]. Rather than acknowledging the inherent consequences of complexity, and positively utilizing its possibilities, planning remained a ‘secular faith’, despite compelling evidence to question that fate. One principal proponent of strategic planning even positioned such method for dealing with complexity: “Formal long-range planning seemed almost like a godsend to the top executives of organizations facing increased complexity” [In: Mintzberg 1994, p. 137].

Uncertainty in enterprises necessitates finding ways to recognize and address chaos and uncertainty [Pascale and Athos 1981, Peters 1989]. Complex socio-economic and socio-technical systems require approaches to governance that acknowledge emergent control. As we will argue in paragraph 2.4, employee involvement will enable emergent forms of self-management, and in so doing, will enable emergent control and the emergence of overall order. Comparably, proponents of the ‘complex responsive processes theory’ hold that self-organizing processes of local human interaction create continuity, change and renewal, thereby creating overall order [Stacey et al. 2000, Stacey 2003]. Similarly as mentioned in paragraph 2.2.1, through complex responsive processes human actors shape the enterprise, while at the same time being shaped by the enterprise [op. cit.]. Also from a top-management perspective, the practical validity of these views has been demonstrated in various cases, while acknowledging that top-management cannot control the overall cumulative effect of local initiatives [Groot 2007].

A single-minded mechanistic method is likely to be counter-productive due to the “pursuit of one-dimensional approaches to multi-dimensional problems” [Vinten 1992, p. 25]. The unwillingness to use an inclusive perspective on enterprises will further continue an either-or mode of thinking that leads to continually seeing them “as full of irreconcilable trade-offs” [Davis 1987, p. 85]. Freedom and order are recognized in the inclusive view as two essential aspects of all enterprises. However the either-or approach treats them as an irreconcilable dilemma. But freedom and order are not necessarily opposites. Given uncertainty and ambiguity, more freedom in self-organizing could address uncertainty to create emergent overall order [Wheatley 1994, p. 95]. An enterprise as a deterministic system is viewed as an oversimplification leading to overconfidence in formal control methods and an unjustified belief in the myth of controllability, together with the illusion of being in control [Senge 1990, p. 290]. This over-simplification is considered a management liability, since it confronts the “complex dynamic realities with a language designed for simple static problems” [op. cit., p. 226]. Indeed, the introductory chapter mentioned that the high-level complexity of enterprises was addressed with concepts only suitable for low-level complexities, such as machines.
Table 2.1 summarizes the most important differences between the mechanistic view and the non-mechanistic view, also based on the distinctions presented by Dent [1999].

Table 2.1. Key differences between the mechanistic and non-mechanistic view

<table>
<thead>
<tr>
<th>Mechanistic view</th>
<th>Non-mechanistic view</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reductionism</td>
<td>Holism</td>
</tr>
<tr>
<td>Determinism</td>
<td>Uncertainty, indeterminacy</td>
</tr>
<tr>
<td>Linear causality</td>
<td>Many interdependencies</td>
</tr>
<tr>
<td>Objective reality</td>
<td>Perspective (perceived) reality</td>
</tr>
<tr>
<td>Observer and context separated</td>
<td>Observer and context mutually dependent</td>
</tr>
<tr>
<td>Focus on discrete entities</td>
<td>Focus on relationships</td>
</tr>
<tr>
<td>Either-or thinking</td>
<td>Polarity (inclusive) thinking</td>
</tr>
<tr>
<td>Logic</td>
<td>Paradox</td>
</tr>
<tr>
<td>Behavior specified from the top down</td>
<td>Behavior emerges bottom up</td>
</tr>
<tr>
<td>Planning</td>
<td>Learning</td>
</tr>
<tr>
<td>Focus on outcome</td>
<td>Focus on process</td>
</tr>
</tbody>
</table>

2.4 The Organismic Perspective

Opposite the reductionistic or mechanistic perspective is the perspective labeled as ‘holistic’ or ‘organismic’ [Capra 1996, p. 12]. The latter label indicates that a system is considered analogous to a living body. The aforementioned distinction has also been introduced in relation to enterprises under similar labels [Burns and Stalker 1961]. The label ‘organic’ was also used [Burns 1963]. Mechanistic enterprises show the rigid, machine-like characteristics previously discussed, whereas the organismic enterprises have opposite characteristics, and show flexibility and responsiveness, based on fundamentally different perspectives on control. These fundamentally different perspectives are necessary for providing an answer to the myth of traditional control previously sketched. Recalling our observations in paragraph 2.1.4, the organismic perspective is reminiscent of characteristics of Eastern thought, not only because of the (human-centered) organismic concept itself, but also in view of the avoidance of either-or thinking and the processual (adaptive, learning, emerging) notion of enterprise change. In this section we will argue the importance of the organismic perspective on enterprises, which forms the basis for arguing the organismic perspective on governance.
2.4.1 The Human-Centered Approach: Employee Involvement

Our previous discussion has shown the dominance of mechanistic thinking, and argued its limitations. In the following paragraphs we will illustrate further that, in view of a number of essential enterprise success areas, an exclusive mechanistic approach is dysfunctional since it undervalues human capacities, the very essence of the organismic approach to enterprises. Undervaluing human capacities entails that people should behave like machine parts carrying out predefined tasks. Work that requires only mechanical input stifles creativity and initiative. This absence of mentally-involved employees created in itself a justification for the existence and continuation of the mechanistic approach. The inherent undervaluation of human capacities and contributions within the mechanistic mindset essentially detaches employees from enterprise activities in an emotional sense, since these activities are not perceived as part of their responsibilities. Carrying out tasks ‘set before them’ amounts to no more than mechanical behavior, and is distant from participation and the expression of personal involvement with, and integration into, enterprise activities. Hence, at the employee level, the mechanistic approach to enterprises induces the attitude of not taking responsibility for what is happening. Employee involvement is thus extremely limited. Striking differences regarding the level of personal involvement (‘ownership’) appeared in a survey indicating that 93% of Japanese employees, but only 9% of American employees, thought that they themselves would benefit from enterprise improvements [Rehfeld 1994, p. 42].

Lack of employee involvement is detrimental to enterprise success as we will argue in the next paragraphs. The drive for further productivity and quality improvements, as well as a customer- and service-oriented operation, will be shown to rest on employee involvement to a crucial degree. Similarly this holds for the need for enterprise learning and innovation, and the moral and ethical aspects related to the responsibility of enterprises beyond shareholder profit maximization. Finally, the focus on employee involvement is also driven by the shift from manual-intensive to knowledge-intensive work. Tomorrow’s ultimate raw material will be knowledge. According to Drucker, the enterprise is thus to be seen as “the integration of specialized knowledge into a common task” [1992b]. Rather than undervaluing human capacities in enterprises, the areas identified above require a human-centered approach to enterprises.

There is ample evidence that employee involvement is conditional for enterprise success. Different enterprises having virtually identical technology, and producing similar products, nonetheless show dramatically different results in various areas such as productivity, quality, customer and service orientation and innovation [Pascale and Athos 1981, Chew 1990, Pfeffer 1994, Rehfeld 1994]. Within the mechanistic mindset described previously, these differences cannot be explained nor resolved. These phenomena can only be understood by focusing on human behavior in enterprises. In this sense, Drucker advocates a change in the areas of management concern, since “Aspects of human behavior are the primary...
facts of management science” [1985, p. 510]. As such, “Social innovation is equal to and often more important than scientific innovation” [Drucker 1992b]. Various writers have emphasized this theme. For Katz and Kahn, “The great central area of human behavior in organizations and institutions has been ignored” [1978, p. 2]. Likewise Prahalad concludes that “The biggest under-leveraged skill in a large company is Human Resource” [1995]. So, “It is not cash that fuels the journey to the future, but the emotional and intellectual energy of every employee” [Hamel and Prahalad 1994]. Innovation according to Moss Kanter, should therefore not primarily concern new products, but should specifically concern the way enterprises are operating [1983]. Hence, they should concern social and organizational innovation [op. cit.]. One might thus contend that the necessity of focusing on employee involvement and behavior should be a strategic focus in itself. Indeed, apart from other strategic aspects, Miles et al. identified a clear “managerial philosophy that establishes continuous development of human assets” as a key element of success in corporate redesign [1995].

The observations above indicate that the source of competitive advantage has changed. A report from The Conference Board Europe confirms this view. Analyzing 166 companies with respect to human performance, the report concludes that “Historically, the response to competition has been to add technology, cut costs or seek favorable government regulation. None of these efforts had a lasting effect on productivity. The only sustainable resource for competitive advantage is people” [Csoka 1994, p. 7, p. 25]. We will illustrate the importance of employee involvement – hence the importance of the organismic perspective – relative to the following enterprise success areas: productivity, quality, service, and learning and innovation.

2.4.2 Productivity

Although in his book The Wealth of Nations published in 1776 Adam Smith advocated the principle of division of labor to increase productivity, systematic approaches to productivity improvement were probably initiated through the work of Taylor, Fayol and Weber mentioned in paragraph 2.1.3. Collectively, these thoughts can be seen as the structural and bureaucratic approach to thinking about enterprises: the “machine bureaucracy” [Mintzberg 1989, p. 47]. Underlying these approaches were the dominant principles of determinism and reductionism, as outlined previously. Productivity was assumed to be higher the more employees behaved according to predefined formal work patterns, rules and regulations. Production management and industrial engineering became important disciplines dealing with work planning, and time and motion studies [Mayer 1968, Niebel 1982]. Stability and control were pursued through high levels of formalization [Robbins 1990]. Essential in the mechanistic approach is a sharp distinction between management and non-management, or in other words, between thinking and doing. Management is considered the locus for knowledge and control [Barnard 1938,
Taylor 1912]. These principles were established almost a century ago, when “the last great organizational transformation” took place [Bennis 1989, p. 177].

We might observe that the results of this approach to productivity improvement have been impressive. At the end of the last century Drucker estimated that a 45-fold productivity improvement has been realized since the beginning of the industrial revolution, contributing to the creation of wealth in industrialized countries [1991]. Roughly a 25-fold increase in real income was accomplished between 1920 and 1990 [op. cit.]. Further, the mechanistic approach was continually able to produce complex products with unskilled or semi-skilled employees [Drucker 1993]. This aspect seems especially important, since based on the general education level of employees at the onset of the industrial revolution, enterprise arrangements were needed that indeed allowed poorly-educated people to be productive in an organizational setting.

Although the traditional approach to productivity resulted in considerable gain, the question remains as to whether the mechanistic approach is able to sustain further productivity growth. Drucker argues that the production revolution identified above is over, and that the influx of technology in organizations will not by itself generate higher productivity [1991]. Productivity and competitive advantage can therefore only be improved through the involvement of people [Pfeffer 1994]. Productivity thus becomes an aspect of “social organization” [Ouchi 1981, p. 51]. Without changing the existing technology, employee involvement has been shown to lead to dramatic changes in organizational productivity [Denton 1991]. The case of the NUMMI car manufacturing transformation from a cynical, uninvolved, low-productivity workforce into a participative, highly productive one, is often mentioned [Adler 1993, Pfeffer 1994]. Comparable to the NUMMI transformation is that of Semco, a Brazilian producer of industrial equipment. An almost seven-fold improvement in productivity was reported as the result of employee involvement, deployed to an almost unprecedented degree [Semler 1993]. Employee involvement is critical, in view of the shift from manual-intensive to knowledge-intensive work mentioned previously. In light of this shift Drucker refers to the new productivity challenge for the “knowledge worker” [1991].

Employee involvement essentially implies a departure from the strict distinction between management and non-management, and thus implies a departure from the strict separation between planning and execution, or between thinking and doing. Productivity increases can only result from involvement and participation of responsible employees, showing constructive and cooperative behavior, willing to reflect on the efficiency and effectiveness of their own work activities, and showing responsiveness to the need to change them. Employee involvement to gain productivity implies that productivity depends on the possibility for social innovation, which, as stated earlier, is “equally and often more important than scientific innovation” [Drucker 1992b].
2.4.3 Quality

The concept of quality relates to an end-user of a product or service, and can be defined as “the degree to which the product in use will meet the expectations of the customer” [Feigenbaum 1961, p. 13]. Sometimes quality is simply defined as “conformance to requirements” [Crosby 1980, p. 15]. Initially, primary attention was devoted to (statistical) quality control in production processes [Feigenbaum 1961]. Subsequently, consideration was increasingly devoted to the importance of prevention, rather than merely detection of quality defects [Deming 1986]. Alongside Quality Control, Quality Assurance also became essential. This widened the scope of quality-related issues beyond the focus on core production processes. Under the influence of the organizational culture approach and numerous examples of failures to implement quality circles and quality teams, insights emerged that only a consistent company-wide approach could produce intended quality results [Townsend 1986, Brennan 1992, Erickson 1992, Chang et al. 1993, Zairi 1994]. The required corporate-wide focus is expressed by the concept of Total Quality Management for example. Ultimately the total quality philosophy rests on three principles: customer focus, continuous improvement and employee involvement [Dean and Bowen 1994].

Serious and consistent quality improvement programs have been shown to lead to a significant reduction in defect levels, response times and production costs in conjunction with considerable productivity improvements [Juran 1992]. The quality-focused approach thus has significant economic impact. Numerous examples have been given to document the positive effects of the TQM approach [Townsend 1986, Belohlav 1993, Cole et al. 1993, Gallo 1993, Kirby 1993, Zairi 1994, Oakland and Porter 1994, Voss and Blackmon 1995].

Interestingly, a mechanistic approach to quality is sometimes advocated, exemplified by the ISO 9000 approach, whereby the focus is on contracts and internal control through procedures, records and inspection. This entailed considerable bureaucracy, whereby quality became exchanged for conformity. Procedural efficiency and satisfying auditors took prevalence over what matters to customers [Seddon 2000]. Typically reflecting the mechanistic stance: ISO 9000 is considered a ‘management system’. The whole approach turned out to be far from conducive to quality, even to the stated likelihood “that ISO 9000 has inflicted damage to the competitive position of hundreds of thousands of organizations” [op. cit., p. 29]. As we will argue further in a later section, “the focus of an organization wanting to improve quality and competitive position should be on learning, not on compliance” [op. cit., p. 52].

Unlike the mechanistic approach to quality, the strong focus on employee involvement is an essential aspect of the total quality approach [Hoogervorst et al. 2005]. Employee knowledge and contributions are viewed as a prerequisite. Involvement and participation are mentioned by numerous writers on quality as concepts that are necessary for continuous improvement. According to Juran, enterprises that excelled in quality “used employee involvement to an
unprecedented degree” [1991]. Similarly, the six-sigma quality concept is viewed as a high employee involvement concept [Eckes 2001].

The concept of ‘kaizen’ as a principle of continuous improvement is described as a people-oriented concept [Imai 1986].

Seeing employees as a source of meaningful contributions implies an approach fundamentally different from the traditional separation of thinking and doing. The TQM philosophy is therefore considered to be incompatible with the traditional mechanistic management theory and practice [Grant et al. 1994, Amsden and Ferratt 1996]. Continuation of this theory and practices were shown as root causes for failing quality initiatives: management was only interested in reducing the costs of non-quality, since that had a direct impact on the ‘bottom-line’ [Zuboff and Maxmin 2002].

2.4.4 Service

A service can be defined as an “intangible exchange of effort for money that occurs in an interpersonal relationship that can’t be recaptured only repeated” [Bell and Zemke 1990]. Understandably, the delivery of a service rests on a proper structural-functionalistic foundation, as mentioned in paragraph 1.1.2. This is a necessary, but not sufficient condition. Foremost, service is seen in ‘humanistic’ terms: people are considered as the primary providers of service [Schlesinger and Heskett 1991]. Contenders of the humanistic model argue that an exclusive mechanistic view will inevitably lead to the start of the ‘cycle of failure’, seen as a self-destructing mechanism of service decline that is bound to start since the mechanistic approach cannot adopt readily to changing conditions [op. cit., p. 75]. Poor service is thus “designed into the system” [ibid.]. Thus, it is the result of the ‘common causes’ discussed in paragraph 2.3.2. Further, the mechanistic approach to service might lead to mere instrumental and often marginal behavior. Hence the mechanistic model with its focus on rules, regulations and output targets, is viewed as creating service employees who are uninterested in customer problems, or are unable to address the problems when interested (cf. paragraph 2.3.1, 2.3.2). The inadequacy of the mechanistic model of service is illustrated further by arguing that a service ‘system’ is routine-oriented and cannot deal adequately with the unexpected [Hart 1989]. Only employees with authority, empowered and who have behavioral guidance on a more aggregated level via the mission, values and goals, can deal effectively with service contingencies. For example, relaxing centralized control and stimulating local initiatives of empowered employees has been shown to lead to better train punctuality and passenger service [Groot 2007]. In this view employees are expected to show initiative and creativity in order to address service problems and act diligently. Investigations also show that personal attention and responsiveness are important aspects of service expectations [Zemke 1989]. Clearly, leverage in service is the freedom to act [Berry and Parasuraman 1992]. Empowerment and participation are considered crucial success factors relevant to service [Hart et al. 1990, Wills 1992, Bowen and Lawler 1995]. This
authorization or empowerment approach to service rests on the participation model and the Theory Y vision on enterprises [Bowen and Lawler 1995, Wills 1992]. Contrary to the Theory X vision, the Theory Y vision holds that work is not seen as inherently distasteful to most people, such that strict control is required for adequate performance. Rather, it is argued that people want to be recognized as individuals and want to feel important and useful. These needs are considered more motivational than monetary rewards based on assumed forms of narrow self-interest [McGregor 1960].

Essentially, the human approach to service recognizes that “A service company can only be as good as its people” [Berry and Parasuraman 1992, p. 30]. Ultimately, as investigations show, the treatment of employees is reflected in the treatment of customers [Zemke 1989]. As Bowen and Lawler note, “Studies support the idea that how employees feel about their work spills over to customers, influencing their satisfaction with the service they receive” [1995, p. 76]. As with quality, the economic impact of providing good service is also considerable [Zemke 1989, Heskett et al. 1990].

2.4.5 Enterprise Learning and Innovation

Social groups – hence enterprises – are considered to develop a collective memory and collective knowledge that can only be attributed to the group as such, since groups may consist of different individuals over time, while groups preserve knowledge and mental maps which are transferred to new group members [Dixon 1992, Weick 1994]. Group knowledge is thus relatively stationary, while group members may be contingent. According to Kim, a group is a “collective individual with its own set of mental models that contribute to the organization’s shared mental models and learning” [1993]. Argyris and Schön regard the enterprise as a cognitive phenomenon that learns and develops knowledge [1978].

Creating and sharing knowledge is therefore considered crucial for gaining and maintaining competitive advantage [Nonaka and Takeuchi 1995, Davenport and Prusak 1998]. As Drucker notes, “The real controlling resource and absolutely decisive factor of production is now neither capital, nor land, nor labor, it is knowledge” [1993, p. 6].

Shared knowledge will determine the enterprise ‘mental map’ that guides behavior and determines the enterprise reaction to various internal and external circumstances. The concept of the learning enterprise emphasizes the importance of the generation, distribution, integration and application of knowledge in enterprises in order to change behavior, as well as emphasizing the need to create conditions for adapting to new shared knowledge. This latter aspect manifests the capability of learning. Various definitions of a learning enterprise exist. Learning relates to the development of knowledge about interrelationships between the organization’s actions and the environment [Kim 1993]. Argyris stresses the importance of also focusing on internal conditions by stating that “If learning is to persist, managers and employees must look inward [and] reflect critically on
their own behavior, identify the ways they often inadvertently contribute to the organizations problems and then change how they act" [1991]. The latter aspect is important, so enterprise learning might be more broadly defined as “the process of improving action through better knowledge and understanding” [Easterby-Smith 1990]. Others view learning likewise “as the capacity or process within an enterprise to maintain or improve performance based on experience” [Nevis et al. 1995]. Enterprise learning thus refers to “increasing an organization’s capacity to take effective action” [Kim 1993].

Taking action can have two different forms: addressing merely symptoms or the actual underlying causes. These two forms are related to two perspectives on learning: ‘single-loop learning’ and ‘double-loop learning’ [Argyris and Schön 1978]. For example, when quality problems are encountered, extra inspection might be arranged to remedy deficiencies. Or high employee turnover might be addressed through extra recruiting efforts, while increasing absenteeism might lead to intensified control. These are actions based on single-loop learning. No reflection takes place about underlying reasons that causes problems to occur. Double-loop learning is the label used to identify learning resulting from reflecting upon underlying relationships and patterns of interconnectedness that are the roots of problems. With reference to the previous single-loop examples, quality problems might not be the result of lack of inspection, but rather the result of the principle of inspection itself that leads to lack of employee commitment towards quality since deficiencies will be detected anyway. Quality problems might also be the result of a production-volume-oriented management reporting structure and value system. In addition, employee turnover and absenteeism can be interpreted as a sign of low commitment, owing to the structuring of work that eliminates opportunities for employee involvement.

Others have identified similar categories of learning. Bennis identified the two modes of learning as ‘maintenance’ and ‘innovative’ learning [1989, p. 75]. Maintenance learning resembles the concept of single-loop learning discussed above. Innovative learning is similar to double-loop learning, since this learning is reflective and dialogue-oriented and opens different perspectives on reality to aid change.

Argyris and Schön argue that learning only occurs if knowledge is translated into reproducible behavior [1978]. As Argyris notes, learning should be “in the service of action, not simply discovery or insight” [1993]. A learning enterprise is thus geared intentionally to the acquisition and distribution of knowledge in order to detect and remove errors, and to improve enterprise processes and actions. Evidently, the process of continuous improvement previously identified when discussing productivity, quality, and service, requires the ability to learn. Hence a learning enterprise is “an organization skilled at creating, acquiring and transferring knowledge, and at modifying its behavior to reflect new knowledge and insights” [Garvin 1993]. Learning is both a manifestation and a prerequisite for change. For Schein, enterprises that cannot learn cannot change [1993]. This position is also expressed relative to enterprise strategy where changes are considered to occur not because of planning (mechanistic view) but because of learning (organismic view) [Stacey 1993]. Strategy emerges because of learning about the
dynamic relation between the organization and the environment, as argued in paragraph 2.3.4 [Mintzberg 1989, 1994]. Enterprise learning leads to adaptation and self-renewal. According to Drucker, organizations need to provide for their self-renewal by having structures designed for continuous learning [1985]. Many theorists and enterprise leaders stress the importance of enterprise learning which is considered a critical competency for enterprise continuity and growth [Senge 1990, Drucker 1991, Armstrong 1992, Drucker 1992, Dixon 1992]. Learning faster than competitors may be the only sustainable competitive advantage. According to Prahalad and Hamel, collective learning should therefore be an enterprise core competence [1990]. This competence depends ultimately on employee involvement, since enterprise learning starts with individual learning. It is impossible to conceive of a learning enterprise without individual learners on whose skills and commitment the learning enterprise depends [Mumford 1992]. Thus “Organizational learning takes place through individual actors whose actions are based on a set of shared models” [Kim 1993]. Put another way, renewal, innovation and improvements are thus considered to come largely from the ‘human side’ of enterprises.

Enterprise and environmental conditions that necessitate continuous adaptation are seldom clearly defined. In such situations of dynamics and complexity, ambiguity and uncertainty exist, as discussed earlier. Hence the process of learning is heuristic, whereby emerging knowledge guides future actions. The notion of ‘emergence’ discussed in paragraph 2.3.5 is thus associated strongly with the learning enterprise. The emerging nature of knowledge development requires that employees will display the involvement and behavior necessary for learning, and the development of the capacities to act, to take place. 

Empowerment is seen as a prerequisite for the deployment and use of learning opportunities [Mumford 1992]. The ability to learn requires a climate of trust and openness where people are committed, participate and are willing to explore new ways of working. Nevis et al. identified various facilitating factors that induce and support learning [1995].

We might observe that uncertainty in enterprises and heuristic, experience-based, learning are mutually implied: without uncertainty, heuristic learning is impossible to practice, while without the willingness of employees to learn heuristically, uncertainty cannot be dealt with. In turn, through heuristic learning, uncertainty is acted upon, and in some sense contained and controlled. Without uncertainty no learning takes place and only mechanistic determinism would determine employee behavior. Uncertainty and unpredictability offer possibilities for self-regulation however and as such, offer possibilities for employee self-development and self-realization.

The aspects mentioned previously are similarly relevant with regard to innovation. Learning and innovation are thus complementary aspects. Innovation is considered a significant non-routine and discontinuous enterprise change to be distinguished from the mere extrapolation of current modes of operation relative to existing systems, structures and technology [Moss Kanter 1983, Mezias and Glynn 1993]. Briefly stated, innovation refers to “a process of bringing any new, problem-solving idea to use in an organization” [Moss Kanter 1983, p. 20]. Thus innovation also relates to management methods and the very ways that enterprises operate.
Appreciably, the mechanistic perspective on enterprises is not conducive to innovation. This concurs with the view of Moss-Kanter who observes that “The more jobs are formalized with duties finely specified and codified, the less innovation is produced in the organization”, so conversely, “Low formalization is associated with more innovativeness” [Moss Kanter 1983, p. 144]. Reliance on formalization has as a dysfunctional consequence “the lack of innovative and spontaneous behavior necessary for effective organizational functioning” [Katz and Kahn 1978, p. 266].

Innovation is emergent: it cannot be planned. Innovation resembles the heuristic learning process mentioned earlier. A study of the world’s most innovative large enterprises supports the idea of innovation as an emerging quality [Quinn 1985]. “All innovation has an improvisational aspect. Decades of research show that innovation combines the discipline of skilled actors with serendipity and change; and even strategy formulation can be discovery-based” [Moss Kanter 2001, p. 107]. As is the case with learning, the variability implied by dynamics, complexity and uncertainty offers possibilities for employee-initiated actions leading to innovation. Such actions will only occur however if this variability is explicitly recognized and appreciated by “relaxing managerial control, routines and less precise performance management” [Mezias and Glynn 1993]. As Moss Kanter argues “Innovative companies provide the freedom to act which arouses the desire to act” [1983, p. 142]. Hence, innovation is based on creating (designing) organizational conditions conducive to innovation [Moss Kanter et al. 1997]. Empirical data supports the importance of employee involvement for innovation: contrary to what the mechanistic, top-down approach would suggest, most ideas for innovation come from within the enterprise, not from the top [Christensen 1997, Moss Kanter et al. 1997]. As empirical data indicates, “The annual planning system itself was hardly (if ever) the initiating source of really new key issues or radical departures into new product/market realms” [Quinn 1999, p. 129].

2.4.6 Self-Organization: Addressing Complexity, Dynamics and Uncertainty

Life at the Edge of Chaos

As paragraph 2.1.3 showed, mechanistic thinking creates enterprises having machine-like characteristics. Essential properties of machines are: fixed functionality, time invariant behavior, stability and predictability. Self-initiated change is not to be expected, nor appreciated: the coffee machine should reliably produce coffee, nothing else. Arguably, the machine characteristics can be associated with the structural-functionalistic foundation mentioned previously.

As we have illustrated, operationally as well as strategically enterprises need to react to and anticipate unforeseen situations arising out of dynamics, complexity and the related uncertainty; they need to change and adapt. Precisely the capabilities that a machine cannot provide. Hence, next to the structural-functionalistic machine stability, there is a need for so much instability that
change and adaptation is enabled. Total instability (chaos) is evidently unproductive since nothing of the structural-functionalistic foundation remains. Various theorists have argued that productive change occurs at the boundary between stability and chaos [Kauffman 1995, Capra 1996, Brown and Eisenhart 1998]. This draws on the biological metaphor: “Life exists at the edge of chaos” [Kauffman 1995, p. 26]. These opposing aspects point to the fundamental tension discussed below.

The Fundamental Tension: Stability and Instability

The fundamental tension enterprises are facing thus concerns the need for stability on the one hand in order to provide the necessary structural-functionalistic foundation, and on the other, the need for instability in order for adaptation, change and renewal to take place. Resolving this fundamental tension (paradox) is by no means trivial. In view of the preceding paragraphs, we submit that this tension can only be addressed and resolved through employee involvement. In the light of the enterprise success areas identified previously, employee participation and involvement will be crucial in a future that demands flexibility in production, shorter product development time, responsiveness and the ability to adapt and change direction, together with greater innovation, quality and service, and an overall need for continuous improvement. Incidentally, management appears not to be the source of knowledge for these improvements. One survey reported that only about 4% of the problems encountered by factory workers were known to management [Whiteley 1992].

As figure 2.5 shows, we have labeled the edge between stability and chaos the ‘creative boundary’. It is here that employee involvement becomes manifest through creativity and initiatives directed towards safeguarding operational process excellence and improvements, product and service improvements, as well as directed at new strategic developments. Interestingly, modern information technology developments greatly facilitate (and induce) the establishment of the

Fig. 2.5. The creative boundary
creative boundary. For example, modern web technology enables innovative end-users to create simple composite applications called ‘mashups’ [Mulholland et al. 2006]. Said creation of new business functionality is labeled as ‘development on the edges’: new functionality is emerging through creative end-users while maintaining the core business and IT operational integrity and security [op. cit.].

Unlike the mechanistic approach to enterprise design, these reflections necessitate the recognition that required forms of enterprise activities, and specifically employee behavior, cannot be totally determined in advance, since these activities and employee behavior have to respond to external and internal contingencies emerging through dynamics, complexity and the associated uncertainty. We recall the observation of Katz and Kahn given earlier that “it is impossible to prescribe role requirements precisely and completely or lay down rules with sufficient specificity to cover all contingencies arising in a single week of work of a complex organization” [1978, p. 266]. Success at the creative boundary depends on the participation of employees and their capacity for self-organizing and self-ordering [Chang 1993]. Evidently, local freedom is a necessity, as mentioned previously when discussing innovation. Freedom and order are thus not necessarily oppositional, as mentioned earlier. Rather, local freedom is required to create overall order, expressed in employee actions being aligned with the enterprise purpose and goals. Handling uncertainty assumes creativity and local initiative combined with such a commitment and participation that acting relative to various contingencies is considered necessary by employees and aligned with the enterprise purpose and goals. This requires controlling forces on higher aggregated levels, such as the organizational culture, as we have described elsewhere, and it will be resumed briefly in paragraph 3.3.2 [Hoogervorst 1998].

2.4.7 Human Resources Engagement

The Human-Centered Focus

The previous discussion about areas where enterprises need to be successful argued that an exclusively traditional mechanistic approach was inadequate. Success in all areas requires employee involvement and participation, such that employee input is used to improve enterprise performance relative to productivity, quality and service, as well as creating an overall order in an uncertain and unpredictable context, while enabling enterprise learning and innovation. This focus on employee involvement and participation necessitates viewing human resources itself as an area where the enterprise needs to be successful, hence viewing human resources as an area of strategic focus.

The traditional perspective on human capacities is congruent with the mechanistic management theory discussed previously. Within the traditional view, human resources are virtually a non-issue, since employees are merely fitted into the
enterprise machine: the instrumental view on human resources. This approach to human resources confirmed the traditional management versus employee dichotomy, termed as the “dualist treatment of competence” [Hosking and Morley 1991, p. 44].

Contrary to the traditional Theory X model, the Theory Y model is based on a different set of assumptions, as indicated previously [McGregor 1960]. Unlike the traditional model, the human relations model expresses elements of the Theory Y anthropological vision and acknowledges the possibility of committed employees, and the importance of employee motivation. Others have voiced similar views under different labels, such as Type J [Pascale and Athos 1981], System Z [Ouchi 1981] and System IV [Likert 1965]. Participation and involvement of employees are viewed as important, and to be arranged via adequate enterprise design. This approach acknowledges the need for employee development which allows individuals to exercise responsibility and achieve their potential [Zuboff and Maxmin 2002]. As such, this approach also addresses the importance of the meaning of work in relation to creating meaning and purpose in human life.

Motivation of employees becomes a problem when work loses its meaning [Kilcourse 1994]. Utilization of employee creativity and capacities, but even more, creating a climate for employee development, is seen as essential. Self-direction and self-control are viewed as important concepts. According to Fromm, employee self-realization is established through expressions of creativity and self-initiated behavior [1941]. Essentially, the human resources-focused perspective considers the ethical side of employment as an issue in its own right [Walton 1988, Sashkin 1989]. Hence it considers employees as more than a means of production. Notably, these behavioral aspects are exactly those required to be successful in the areas mentioned previously. Various writers nonetheless contend that in reality, most human resource functions in organizations do not reflect the human-focused perspective, and are merely instrumental, operating as a traditional personnel management function [Armstrong 1992, Thomason 1992]. As Hendry and Pettigrew state, the question boils down to whether emphasis is given to human, or to resources management [1990].

**HR Enablement and the Unitarist View**

Two different views can be identified with respect to human resources strategy. The first view can be labeled as ‘HR alignment’, whereby the HR strategy follows the enterprise strategy, hence is subordinated to the enterprise strategy. As such, human resources management tends to be instrumental, with central themes related to personnel selection, appraisal, compensation structures and training. This approach concurs with mechanistic thinking, whereby social aspects tend to be undervalued [Gaugler and Weber 1995]. Within the second view, labeled as ‘HR enablement’, employees are considered the most valuable asset. Consequently, the human resources strategy is considered in and of itself as an important strategic focus [Hoogervorst et al. 2002]. Development of the most valuable asset necessitates a proactive, rather than a reactive strategic intent. Figure 2.6 shows the different views.
Clearly, principles for human resources engagement geared to employee involvement, participation and self-management are significantly different than those for the instrumental approach. The former principles will express a ‘unitarist’ view on human resource aspects [Cave 1992, p. 133]. Within this view, no necessary opposition, incompatibility or divergence has to be present between enterprise and employee interests. The enterprise is to act in such a manner that these interests coincide [Fitz-Enz 1990, Senge 1990]. Others have expressed such a condition as ‘mutuality’, which is defined as “integrating the needs of those who work in the organization with the needs of the organization” [Armstrong 1992, p. 22]. This forms the basis for psychological satisfaction, whereby necessary activities, seen from the enterprise perspective, are also desired activities as seen from the individual perspective [Fromm 1941]. Enterprise performance and people satisfaction are thus not considered as necessarily mutually exclusive, but can be mutually enforcing. The unitarist view states in essence that desired forms of human behavior based on enterprise performance, or based on human development, do not necessarily constitute a principal conflict of interest [Likert 1965]. This focus would make employees able to satisfy higher-order motivational needs. Such possibilities would allow employees to align personal goals or interests successfully with enterprise goals and interests, hence obtaining the state of ‘mutuality’ as identified previously.

In summary, the unitarist view on human resource management unites enterprise issues pertinent to people management from an operational perspective, with ethical aspects regarding the responsibility towards employees. Within this approach, people-oriented aspects are thus both ends and means. This position fits the change advocated by Drucker, that is a change from adapting the individual to the needs of the organization to adapting the organization to the needs, aspirations and potential of the individual [Drucker 1985]. Recalling conditions of uncertainty, ambiguity and unpredictability that are connected to enterprise reality, as we have stressed previously, these conditions not only require employee involvement and participation to give overall order, but at the same time offer opportunities to make employee involvement and participation meaningful.
As Handy notes, if participation is to mean anything, it has to be at the level of self-management or self-organization [1995]. Owing to uncertainty and unpredictability, there is a necessity for – and so there can be – employee self-management, and thus employee self-development. It is here that the demands of the individual employee for meaningful work can be met [Zuboff and Maxmin 2002]. According to Fromm, human self-development and self-realization are the ultimate goals of human freedom [1941]. Notably, the unitarist view on human resources engagement, expressing congruence between enterprise and personal goals, is possible due to the essential non-mechanistic character of enterprises. Employee behavior reflecting self-development and self-realization is based on self-control. Further, employee self-control rests on various forms of employee-initiated behavior. These behavior characteristics are a requirement for enterprises that aim to be value-driven and in pursuit of excellence, fostering performance orientation, encouraging high levels of commitment, competence, quality, innovation and customer service [Armstrong and Cooke 1992].

2.5 The Fundamental Choice

2.5.1 The Mechanistic and Organismic Perspectives Summarized

Two essentially different views on organizing have been outlined: the mechanistic and organismic perspective. The mechanistic perspective has a number of convictions that can be summarized as:

- Enterprise complexity can only be understood and managed through breakdown into, and knowledge about, fundamental parts. The more detail, the more knowledge and the higher the ability to control the complexity. This conviction is exemplified further by the minute and fixed division of labor, detailed task and job descriptions and the managerial control hierarchy, including the associated measurements. The fixed task patterns define the fixed, machine-like enterprise operational structure.

- The objective, deterministic enterprise reality is inherently measurable. Enterprise reality can (thus) be captured objectively and unambiguously through measurement. In turn, measurements define reality. Said reality exists independently of management which merely controls the enterprise as an object. Through measurement, developments can be controlled and guided into the desired direction.

- Events have identifiable causes that necessarily determine the current state of affairs, which state in turn determines the future state of affairs. Clear cause and effect relationships can be established. Enterprises can thus be controlled through a management structure of top-down cause and effect relationships that secures the contribution of individual workers. Control proceeds top-down, whereby higher levels control lower levels. Unit and
personal targets, as well as performance-related pay are seen as incentives (causes) that drive performance (effect).

- In view of these convictions, complex tasks or goals can be broken down into elementary units of activity that can be planned and controlled, thereby securing the accomplishment of the complex tasks or goals. Hence, a sequence of actions (linear cause/effect relationships) can be determined that will produce a predefined result.
- Since there are identifiable deterministic cause/effect relationships, the effects of initiatives (causes) are inherently predictable. The enterprise future is thus under intentional human control: courses of action can be planned and controlled, while risks can be identified and managed. Thus, through planning, strategy can be defined and executed, whereby the enterprise future is determined and secured.
- Employees are instruments: elements of the enterprise machine. The more they behave according to predefined task descriptions, the better the enterprise performance.

In summary, the mechanistic view treats the enterprise as a machine leading to a high level of enterprise rigidity and inertia. The mechanistic approach is deterministic with an unquestioned belief in the predictability of enterprise developments, and a denial of the ever-present internal and external dynamics and complexity with its inherently associated uncertainty. The organismic perspective on organizing refutes these convictions and holds that:

- Enterprise complexity shows overall, aggregated behavior that cannot be inferred from knowledge about the constituent parts.
- Enterprise reality is socially constructed. Communication plays an essential role. Employees interpret reality through concepts and language established and agreed through social interaction. People are both products of the enterprise context in which they operate, while also being participants in shaping that context.
- Cause and effect relationships vanish in enterprise complexity, dynamics and the associated uncertainty. Measurements are therefore often symbolic in nature, with no identifiable link to enterprise performance, and often lead to unproductive goal replacement.
- Detailed task and job descriptions – based on the assumed predictability of task execution – are unproductive when predictability vanishes.
- Detailed task and job descriptions imbues enterprises with rigid, machine-like characteristics, with the inherent inability to adapt and change.
- Enterprises are cognitive systems that learn and develop knowledge. Enterprise learning is crucial for the capacity to adapt and change.
- Enterprise change is not the result of planning but of learning. The learning process is emergent: results become manifest in evolutionary, unplanned and unpredictable ways.
- Self-control and self-organization are essential for enterprise performance and the ability to innovate, change and renew.
• Unlike the instrumental, machine-like view, the capacity for self-organizing is essential for enterprise adaptation and change.

• Employee involvement is essential for:
  o enhancing productivity, quality and service
  o resolving the fundamental tension between enterprise stability on the one hand, and the ability to change and adapt, on the other
  o addressing the non-mechanistic character of enterprises
  o dealing with complexity, dynamics and the associated uncertainty
  o addressing strategic transition barriers
  o constituting the foundation for enterprise learning and emergent enterprise developments.

• Employee involvement and local freedom are essential for constituting the self-organizing capacity.

In view of these fundamental perspectives, a basic and fundamental choice has to be made as to the core beliefs underlying the way of organizing and governance. Our position will be outlined below.

2.5.2 From Mechanistic to Organismic Ways of Organizing

Two fundamentally different perspectives on enterprises have been discussed: the mechanistic and organismic perspective. These different perspectives define the way enterprises are organized, and thus define the characteristics of governance, strategy development, design and operation of enterprises. In view of the limits of mechanistic thinking in dealing with dynamics, complexity and the associated uncertainty, the importance of the organismic perspective was emphasized. All too often, unforeseen developments, opportunities and threads, complex and hardly discernable mutual dependencies and relationships between actors and internal and external forces, as well as various forms of nonlinear feedback, make predictability and control an illusion. It is this illusion on which the mechanistic way of organizing is based.

When discussing the different governance themes in later chapters, additional arguments against the mechanistic viewpoint will be given. As emphasized, complexity, dynamics and the associated uncertainty necessitate the ability for adaptation and change, and the creativity for bringing that about, typical aspects that the enterprise as a ‘machine’ essentially cannot offer. Increased dynamics necessitate enterprise response time to be greatly reduced, in order to make responses meaningful and relevant. Enterprise flexibility is thus crucial. This forms the basis for strategic change. As made plausible, and argued further in paragraph 3.2.2, strategy development is an emergent, incremental process, based on enterprise learning in dynamic interaction with various enterprise contextual conditions. Unlike the mechanistic way of organizing, the organismic way of organizing is directed to adaptation, flexibility and the ability to change in light of unforeseen requirements.
As we have argued, new order emerges out of uncertainty in an unpredictable way through the process of self-organization (creative boundary). This holds for the operational domain, such as rectifying unforeseen problems in production and service processes, but also for the strategic domain, the domain of learning about future enterprise choices. The section about employee involvement showed that the ability for self-organization rests on the ability for employee self-initiated behavior. Contrary to detailed task descriptions, rules, regulations and targets, there is employee freedom, hence, there is room for employee-initiated behavior and creativity. Shared goals, norms and values offer important behavioral guidance. We have seen that employee involvement is essential for productivity, quality, service, and enterprise learning and innovation.

More than in the past, enterprises face considerable complexity and dynamics caused by technological, social, economic, political, commercial, environmental or competitive developments. Globalization and deregulation, and the emergence of new business models (e-business, network economy, networked enterprises) likewise play an important role. We recall the survey mentioned earlier among 500 top managers who qualified the dynamics in their domain of business as high to very high [Prahalad and Krishnan 2002]. In line with our observations in the section about limits to mechanistic thinking, the inevitable conclusion has to be that increasing complexity and dynamics necessitate a shift (transformation) from the mechanistic towards the organismic way of organizing. Hence a shift from top-down control to bottom-up empowerment [Johnson 1992]. As Daft observes: “As environmental uncertainty increases, organizations tend to become more organic, which means decentralizing authority and responsibility to lower levels, encouraging employees to take care of problems by working directly with one another, encouraging teamwork, and taking an informal approach to assigning tasks and responsibility” [2001, p. 144]. Figure 2.7 depicts the necessary shift schematically.
2.5.3 Our Own Position

As illustrated, mechanistic thinking is a dominant mental map for interpreting reality. Within enterprises, it is often the only approach used. Admittedly, the mechanistic approach presents a highly mutually-consistent theoretical body of knowledge. It can be seen as the traditional cognitive or mental map by which enterprises are designed, enterprise issues are interpreted and enterprise members – specifically management – are shaped. Although various theorists have argued different views, the traditional mechanistic and reductionistic approach appears to remain the prevalent mode of thinking, as argued in paragraph 2.1.3.

Most would agree with the observation that the mechanistic approach to reality works very well to a great extent. Complex technical systems on which society daily depends, show perfectly the utility of this type of thinking. In case of a system breakdown, rational and deterministic cause and effect relationships are assumed to be in force, and rightly so. As mentioned in paragraph 2.1.4, scientific progress is also driven by mechanistic thinking to a considerable degree. Our earlier reflections should thus not be interpreted as a plea to disregard principles of rationalism, reductionism or determinism all together, nor to devalue logical-deductive thinking for the development of knowledge. Our own thinking is based on these principles to a greater or lesser degree. In addition, various activities in enterprise reality benefit from rational planning and the application of analytic tools, including adequate measurements. Paragraph 2.4.2 also mentioned that the mechanistic approach has created considerable growth in productivity, employment and wealth. We have frequently stressed further the importance of the structural-functionalistic enterprise foundation. The structural-functionalistic foundation is a prerequisite for the opportunity to address aspects of human development and the utilization of human capacities in enterprises fully, in our opinion. For instance, adequate processes and technology allow decentralization and self-management while ensuring synchronized enterprise activities towards common goals. So a proper structural-functionalistic foundation is an essential condition for sustaining a human-centered focus. Lack of attention to the performance of that foundation can easily lead to rapid enterprise decline [Parker and Lorenzini 1993]. Rightly so, customers are not satisfied when insufficient enterprise performance is justified by referring to dynamics, complexity and the associated uncertainty that is connected to enterprises! They expect quality and service. As we have argued, both the structural-functionalistic foundation and employee involvement are crucial.

In addition and more importantly, an adequate structural-functionalistic foundation can significantly raise the level of competence of employees, as is the case in the area of information distribution and the generation of knowledge to support local decision-making and autonomy. Technology, especially information technology, might resolve the paradox between the requirements for adequate process control, and the requirements to establish involved and committed employees. Technology can be extremely supportive in the form of information and decision support systems, which improve quality of knowledge and enhance employee
involvement by allowing local decision-making and the use of cognitive capacities of employees [Zuboff and Maxmin 2002].

As we have illustrated, mechanistic thinking has practically become the exclusive way of thinking however. Mechanistic approaches are often virtually unquestioned, and irregularities are not considered as evidence for the importance of different views, but rather seen as an anomaly that can be attributed to improper insight into the deterministic relationships or are attributed to poorly established initial conditions. Erroneous results thus create a practical problem, not one of principle. Hence our critique lies in the exclusive and isolated use of mechanistic thinking which even precludes awareness about its dominant use, thereby contributing to the continuation of problems that cannot be solved within this domain of thinking. Said thinking by its very nature precludes viewing the enterprise as an integrated whole, with a multitude of interrelated, mutually influencing aspects, wherein employees play a crucial role. Case studies presented by Maznevski et al. about enterprise decline, showed the traditional mindset as obscuring the insight that the quality of employees is a contributing factor to the success of the organization [1993].

Strategist Prahalad considered the prevalence of the mechanistic mindset as the fundamental problem, which he identified as “the tyranny of the dominant logic” [1995]. Often therefore, the issue is not only about learning new things, but managing the “forgetting curve as well” [op. cit.]. As Prahalad argues, “We need to understand the ‘cognitive maps’ of people inside the organization, the processes by which these maps evolve, and the process of collective learning and socialization” [op. cit.]. All too often according to Senge, “There is a fundamental mismatch between the nature of reality in complex systems and our predominant ways of thinking about that reality” [1990, p. 63]. Unawareness of the dominant mindset might lead to Miller’s Icarus paradox: past successes support the existing mindset further, eventually leading to decline, because “The very causes of success, when extended may become the causes of failure” [Miller 1992]. Faltering enterprise capabilities are then attributed to “a managerial mindset that had become inappropriate for the contemporary realities” [Doz and Thanheiser 1993, p. 295]. Likewise, when analyzing failures in corporate redesign among various firms, Miles et al. identified as a probable cause “a lack of clarity concerning the logic of both their existing designs and those they were attempting to create” [1995]. The necessary shift to the organismic way of organizing requires a different ‘mental map’. Hence it requires ‘rethinking’, which addresses the mental map, since it “is an attempt to probe beneath organizational structures (restructuring) and processes (reengineering) in order to understand the link between the way managers think and the way they design organizations” [Keidel 1994]. “Rethinking seeks to identify the logic that connects cognitive patterns and organizational patterns” [op. cit.]. Similarly, fundamental approaches to reengineering also imply rethinking the basic mental map that governs enterprise operations. Hammer and Champy note that “At the heart of business reengineering lies the notion of discontinuous thinking – identifying and abandoning the outdated rules and fundamental assumptions that underlie current business operations” [1993, p. 3].
Within our approach to governance we reject the mechanistic view on governance, as will be outlined in subsequent chapters, and view governance – within the organismic perspective – as an enterprise *competence* that rests on employee competencies in the sense described above. Nonetheless, some facets of the mechanistic perspective will be taken into account insofar as they have to do with creating the necessary structural-functionalistic foundation of the enterprise. This foundation must be designed. However as we have emphasized in paragraph 1.1.2, various other conditions must likewise be designed, such that the organismic way of organizing becomes possible. As will become increasingly understandable throughout this book, the ability to address these design aspects is an important aspect of the enterprise governance competence.