Chapter 10
CONFLICTS RELATED TO R&D AND INNOVATION IN LARGE CORPORATIONS

10.1 INTRODUCTION

In this chapter an account will be given of conflicts encountered within the corporations studied in connection with R&D and innovation. Corporations are often viewed as homogeneous decision-making and policy-making bodies. Sometimes management is viewed the same way with the principal corporate conflict between management and labour. Conflicts are however, ubiquitous, but usually they are not talked about very specifically and are thought of as compromising for individuals and organizations.

The chapter will be devoted to the recognition of the significance of conflicts among professionals and managers. The focus is on social conflicts; conflicts within the individual will not be discussed. Also 'ordinary' conflicts in resource utilization will not be included due to their familiarity. This does not mean that these two kinds of conflicts are unrelated to other kinds. Strong ambivalence may grow within an individual as a consequence of external conflicts, just as easily as the ambivalent behaviour of an individual may cause conflicts around him in the organization. Similar interactions between resource conflicts and other kinds of conflicts exist. Shortage of resources, and especially shrinking resources tend to accentuate social conflicts, just as a breakdown in co-ordination may lead to a waste of resources.

'Conflict' may be used in a 'weak' sense for any dissonance in values, emotions or cognitions. In a 'strong' sense conflict denotes a similar dissonance, which, however, implies incompatibility that has to be resolved. Traditional literature on organization and management usually regards conflict as something negative, and therefore as something which has to be avoided or resolved. This is, of course, also dependent upon the definition of conflict. With conflict defined as a 'breakdown in the standard mechanisms of decision making so that an individual or group experiences difficulty in selecting an action alternative' (March and Simon, 1958, p. 112) conflicts almost by definition have some negative effects.

Here conflict will be used to describe a state of a social relation that involves:

(a)   a mutual awareness of a dissonance in values, emotions, or cognitions; and
(b)   a readiness from at least one party in the relation to act against the preferences of the other party.

Thus, there are two graded scales, one pertaining to the magnitude of perceived dissonance, the other to the magnitude of incompatible action. The conflicts may be judged, at least qualitatively, in such terms as size, growth, duration and

distribution. Being a state, a conflict may also be described in terms of diagnosis, causes, effects and treatments.

Conflicts related to R&D and innovation present special problems to an organization and its management. This kind of conflict has not been recognized to a degree corresponding to its importance. In addition, this kind of conflict involves conflicts within and around elites. It is probable that the development of an organization is influenced by the relations within a small elite. This is, however, extremely difficult to judge.

10.2 EMPIRICAL FINDINGS

The empirical findings will be presented in the following way. First, conflicts are viewed statically, and groups of conflicts are presented and typical significant conflict relations pointed out. Then, a dynamic perspective is applied in that a case is given, which illustrates how conflicts emerge and change in these significant conflict relations. One more case is then given, which especially illustrates the dynamics in one type of significant conflict relations, namely relations among significant actors.

10.2.1 Groups of encountered conflicts

A classification of conflicts into overlapping groups has been made. The grouping is closely related to the one of barriers to innovation discussed later in Chapter 11, emphasizing the suitability of a conflict perspective in studying and managing innovation. Thus, the following groups of conflicts and conflict relations were identified:

— conflicts in external relations;
— conflicts within management;
— conflicts among organizational units;
— conflicts in relation to corporate history;
— resource conflicts;
— conflicts related to certain individuals and groups;
— miscellaneous conflicts.

It is not possible to be conclusive in quantitative terms about the frequency and effect of these conflicts. Even qualitatively it is hard to be specific, since a weighted judgement of the frequency and effects of conflicts of a certain kind has to be made in assessing their importance in some sense. However, on the basis of the observations some relations of importance to the innovativeness of a corporation seem especially susceptible to conflicts. Typical significant conflict relations in this sense were:

(a)   relations among significant actors (e.g., among top managers, technical managers, and R&D managers);
(b)   relations associated with a traditional part in the corporation;
(c)   functional relations (e.g., between R&D, production, and marketing and their sub-functions);
(d)   relations between central and local authorities;
(e)   relations among professionals and among their subcultures.

On an operative level, pressures to achieve speed, quality and low cost in development work typically produced conflicts, especially when transfers between geographical and organizational borders were involved. Another well known issue, which also typically involved different opinions and interests, was resource sharing and budgeting. When resources are divisible, solutions by negotiation, adjustment and compromise may be attempted. However, opposition to permanent resource sharing or departures from practice typically produced conflicts. Cuts in R&D budgets have at some time been made by several corporations. This is also an example of the common conflict between short-range and long-range behaviour.

As already mentioned, the groups of conflicts displayed above are not independent. A conflict displays a complex of differences in the perception of values and causality. Several conflict relations exist latently and clusters of them become activated. Thus, for example, a conflict relation between central R&D and a traditional division may become activated when technology is about to be transferred. The conflict may then develop into a complex of subconflicts, including conflicts between professional categories, and conflicts between individual managers. The manifest causes may concern project priorities, inadequate solutions to technical problems and disputes over resources, while latent causes may concern old aggression, defeats and revenge feelings, competition for promotion, threats from young managers with current knowledge etc. All this is mixed together in a multitude of complex relations, and any discussion about a conflict of a specific kind with a specific cause is likely to be oversimplified.

10.2.2 Dynamics in typical significant conflict relations

A conflict complex changes with time. A conflict with a customer, for example, easily diffuses into the organization aided by distorted attributions. Marketing people 'hunt' production people, who blame a designer, who in turn claims he was forced to a sloppy design by time pressures put on him by management, including the marketing manager. Resources may then be redistributed to take care of immediate product problems, but grudges between individuals may remain as a net effect of social transactions and may become activated at a later time. The possibilities of diffusing blame are large in a large organization, especially when uncertainty is involved (as in innovative work). Nevertheless, social relations tend to become 'infected' by such a diffusion, and a scapegoat may have to absorb the blame and save the relationships between, and images of, others. An organization puts pressure upon individuals to co-operate, and self-interests, competition, and aggression have to be disguised to some extent. Memories of injustices, injuries, grudges, betrayals, and similar relational events cumulate in the organization, each individual having his own 'cumulative

profile': as someone stated '[A] could never forget that he was passed by [B] for promotion.'

Thus, correlated with the stability in the personnel portfolio, conflict potentials are continuously being built up. Any relation attains a potential for conflicts. With some probability then conflicts are born, they grow or deepen, diffuse among people and relations, mature or are phased out, possibly by aggressive action or reshaped relations in some other way. For instance, as a feature of a corporate culture, individuals aiming for promotion have to display a combination of competitive and co-operative behaviour. This naturally creates a potential for conflicts within individuals and within the organization. Positional goods, moreover, cannot be shared, so there is a win-lose conflict potential tied to that kind of resources. Conflicts related to positions may be accommodated if the competing parties are not strongly dependent on each other. But if they are, resulting conflicts may grow out of control and have to be 'violently' resolved. Promotional conflicts between functional managers of R&D, production and marketing with dependence between the functions is one example of this. Thus, one effect of a reorganization from a functional organization into a divisionalized organization with semi-autonomous divisions is that the conflict potential is reduced regarding the position as corporate managing director.

Case 10.1 Astra

The last two decades of the history of Astra provide several examples of conflicts. As a result of strategic considerations in the 1950s, R&D was built up in a decentralized manner in subsidiaries located close to medical schools. The corporate managing director played a central part in the initiation and support of these ideas but was non-directive in issues concerning the content of R&D. The R&D manager of Astra-Hässle was a pharmacist and initially met strong resistance from the central R&D establishment of Astra: 'They wouldn't touch me with a ten-foot pole'. People from Astra-Hässle were accused of parochialism and non-professionalism. With the aid of external consultants, the support from the corporate managing director, and an ability of the R&D manager of Astra-Hässle to recruit and build relations with professional people, R&D was built up at Astra-Hässle. This phase (in the late 1950s and early 1960s) involved a change in the originally negative attitudes of academic researchers towards the pharmaceutical industry, a slow-moving transition from chemical to biological competence with accompanying shifts in professional power and values, and a more or less continuous struggle for corporate resources.

In the mid 1960s decentralized and regionalized R&D within Astra had considerably grown in size and content, and there was a call for corporate co-ordination, which was contrary to the corporate managing director's belief in decentralization. A corporate research mangement committee was formed, which started to function as a pressure group and a forum for communications. By this time, conflicts between Astra-Hässle and the central R&D establishment had faded somewhat, but criticism remained regarding the direction of R&D at Astra-Hässle. External events and signs of failure, such as pharmaceutical side-effects and advances by competitors, were also producing conflicting views, as well as jumps in resource requirements as R&D progressed. Moreover, Astra rigidly adhered to a principle of budgeting R&D in relation to turnover, and Astra-Hässle required resources for R&D that were above the average.

In the latter part of the 1960s, R&D at Astra-Hässle started to bear fruit after activities that were close to 'crash programmes'. The new product was, however, a 'slow starter', and success was not obvious. At the same time conflicts emerged among the subsidiaries, since their R&D territories started to overlap. A controversial profiling of R&D among the subsidiaries was carried through in the latter part of the 1960s. Conflict potentials among subsidiaries still existed in the mid-1970s, and within the parent company one even perceived a pressure from the subsidiaries to have central authorities as conciliators among the subsidiaries.

In the late 1960s a policy conflict emerged. Simply expressed, there was a question concerning the degree of leadership and whether or not to have R&D aiming for significant therapeutical advances. Involved in the conflict were also relations between a central R&D manager and the R&D manager of Astra-Hässle concerning the question of autonomy or control, the question of the value of R&D in industry, and differences in chemical and biological approaches to problem solving.

In the early 1970s the situation was under control in the sense that key people had largely adjusted to each other, the transition to dominance of biological competence was completed, the basic ways of conducting R&D were established, good external relations had been built, and R&D at Astra-Hässle had proved successful. Basic threats to Astra-Hässle, its R&D, and autonomy had largely disappeared. By this time a more constant but accepted pressure was exercised by the co-ordinating research management committee. A top researcher, recruited by the R&D manager of Astra-Hässle, had transferred to a position as corporate R&D manager. He showed signs of wanting to decrease subsidiary autonomy, signs which were carefully watched by the subsidiaries. However, he died and his position was not filled.

A conflicting issue in 1976 was the development of a third generation of products along one of the original lines of R&D at Astra-Hässle. This development was favoured by the R&D manager of Astra-Hässle, but scepticism had arisen in the committee. The issue of corporate control was also activated by the recruitment of an external top researcher as division manager. His competence and authority were widely accepted and respected and at the time it was hoped that he would 'control through his competence'. Moreover, the growth of subsidiaries and their R&D again brought up issues of corporate control such as profiling R&D among subsidiaries, determining a proper scale of subsidiary R&D, and determining whether diversification and risk distribution through R&D should take place on a subsidiary or divisional level.

In the parent company Astra-Hässle had appeared as homogeneous and 'able to keep their conflicts within the house. One can understand that some of their researchers are very independent boys'. There had certainly been internal conflicts within Astra-Hässle as, for example, in 1976 concerning the successor to the R&D manager. However, the relations between R&D and top management and between R&D and marketing have apparently been free from conflicts at Astra-Hässle.

[End of Case 10.1]

In summary, the conflicts at Astra and Astra-Hässle show that:

(a) a diversity of conflicts existed for a long time within and around a subsidiary that eventually proved successful;

(b) the size and duration of conflicts did not grow to impairing proportions by personification;

(c) at Astra-Hässle the absence of conflicts in crucial internal relations and the presence of external conflicts, to some extent controlled by corporate top management, is probably part of the explanation of success;

(d) part of the success is attributable to the good relations between subsidiary top management and R&D management and the ability of the R&D manager of Astra-Hässle to recruit and utilize top researchers, to manage internal conflicts, and to build good external relations.

10.2.3 Dynamics in relations among significant actors

A conflict is just one kind of state in a relation between two significant actors; it is also a simplified one. In any sociogrammatic representation, the binary relations between individuals are simplifications of dislike, avoidance, esteem, conflict, competition, agreement etc. The relations may be asymmetric, their states may fluctuate over time, and — not least — the relations are contingent upon situations. Perhaps especially when describing relations among significant actors with sophisticated ways of relating to each other in different situations where the pictures of their relations usually are distorted, one is in danger of over-simplification. Nevertheless, an example will be given that should convey a little of the essence of the interplay and 'personnel chemistry' among significant actors in a large corporation. A distinction has to be pointed out at this stage. There are significant actors and there are positions in an organization, which have been equipped with possibilities to exert influence. Different representations may be chosen to describe the relations among significant actors and significant positions over a period of time as well as the 'professional trajectories' and to show how the positions are created, changed, and eliminated. The following notation of general applicability will be used:

Position

CB — chairman of the board; MD — managing director; TD — technical director; SD — staff director; RM — R&D manager; DM — design manager; EC — external consultant.

Level

C — corporate level; D — divisional level; S — subsidiary level; v — vice-.

Change

$\uparrow$ — promoted; $\rightarrow X$ — recruited from the outside to the position as X; $X \rightarrow$ — left the organization from the position as X; $\searrow$ — retired; $\dagger$ — died.

Subscripts denote one chosen enumeration of organizational units and posi-

tions. Superscripts denote one chosen enumeration of successors. (The superscript changes notation from position to occupant.)

Examples

(a) $\rightarrow D_3 MD^2$ denotes a person who has been recruited from the outside as managing director for division number three and who is the second occupant of this position.

(b) vCMD denotes a position as vice managing director on the corporate level.

Case 10.2 The X Corporation

The X Corporation (anonymous here) was re-organized into divisions in two steps in the late 1960s and the early 1970s. The time focused on here is roughly a five-year period between and including these two organizational changes. Some specific information has had to be left out, making more exact representations impossible.

A sociogram or a matrix of relations could be at least partially constructed as in Figure 10.1. However, a verbal account must be given in order to do better justice to the dynamics of the relations. Moreover, the relations are not exclusively binary. Personal relations are complex: coalitions and inner circles are formed, reorganizations are discussed, and consideration for individuals and the organization are shown, and maybe most of all, it is hard to gain access to an overall, unbiased picture. It is hoped the importance of the subject justifies the simplified and somewhat fragmentary account below.

In the late 1960s, the top management constituted a very good working team. Arvid was a vigorous, authoritative corporate leader, who also competently engaged in technical matters, although only in his favorite field. Christer was a gifted production man; he was calm and judicious and was also said to be able to 'moderate' Arvid. The relation between Arvid and the technical director David was not the best. David was a talented technologist and had built up a kind of 'empire'. He was said to be unobtrusive but stubborn and was working in an old-fashioned way. He had some backbiters around him, and there was a conflict with a marketing manager and with the design manager, Ivar, who also was a talented technologist. The first step in the reorganization, in which Nils played a central role, involved the destruction of David's empire. David moved stepwise into a central managing position, in which he adopted a rather timid role.

The re-organization created new positional resources, but in general new people were recruited, and old people were moved to corporate positions so that corporate staffs grew. A corporate R&D manager and a divisional R&D manager were recruited from outside. The corporate R&D manager, Johan, did not succeed in establishing productive relations and esteem from his environment in the organization. As an outsider he had to face much resistance from internal cliques among old '[X]-men'. Moreover, he lacked adequate personal skills to relate to people and was perceived to be 'extreme' in certain respects. Johan was recruited by Arvid but was afterwards considered as 'a hell of a mistake. It was a pity because he was a nice guy'.

The divisional R&D manager, Karl, also created non-productive relations around him due to personal behaviour and circumstances in the organization,

Name of person		Sequence of positions
		→ Time
P 1	Arvid	↑ CMD, CB
P 2	Bertil	→ dCMD, CMD
P 3	Christer	dCMD+
P 4	David	CTD, CRM^1, CSD →
P 5	Erik	↑ CSD,
P 6	Gunnar	↑ D_2MD^1, dCMD
P 7	Holger	↑ D_1MD^2, CSD
P 8	Ivar	DM, D_1MD^1 +
P 9	Johan	→ CRM^2 →
P 10	Karl	→ D_1RM
P 11	Lars	↑ CRM^3
P 12	Magnus	D_1DM →
P 13	Nils	EC

Note:

+ denotes a positive relation on an average

- denotes a negative relation, ranging from skepticism to conflict

Omitted arrows denote neutral relations or missing data.

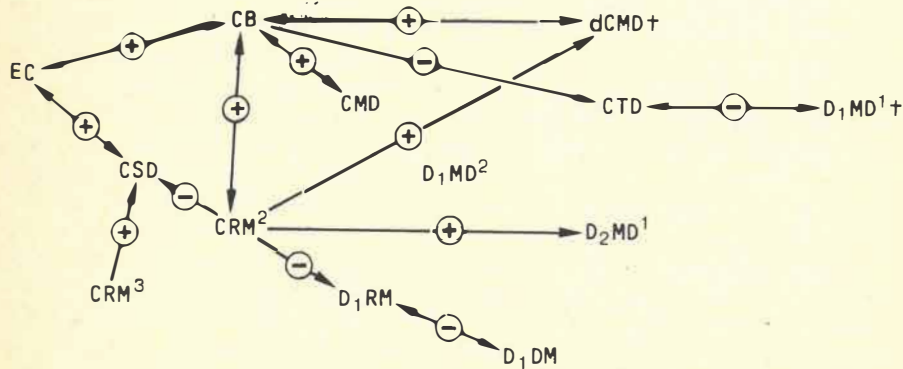Superscripts are deleted when possible.

Figure 10.1 Simplified sociogram of significant actors with respect to R&D and innovation in the X-Corporation

particularly a management conflict between R&D and design in that division. Karl was recruited from a competitor on the recommendation of Christer but was not prepared to lead an organization of that size. Shortly afterwards, the company lost David to a competitor; the same year Ivar died, and thereby many old relations ceased.

The following year Christer died also, which was a severe loss. Moreover, Bertil succeeded Arvid as corporate managing director that year. Bertil represented a younger and 'modern' management style, perceived as more democratic. Bertil initiated the second step of reorganization. Profitability had declined, and costs were 'hunted'. The organization was further decentralized into product divisions and central staffs. Erik embarked early upon the new organizational ideas, while Johan made resistance. Johan had also lost a valuable relation in Christer, and the support from Arvid for a resourceful central R&D unit had weakened. Johan experienced a period of contradictory information and decisions and had to watch 'his' resources being grabbed away. Finally, Johan left the X Corporation. The remaining central R&D resources were put in charge of Lars, who was said to be 'Erik's man', and Lars had to rebuild internal morale and relations. Erik moved upwards and has since became a member of the corporate management, a post that Gunnar was appointed to also. The other divisional manager, Holger, who succeeded Ivar, had problems in leading his division and has since been 'put aside'.

[End of Case 10.2]

Much more could, of course, be added to the case description. More actors have been involved, events and external circumstances have been influential, the relations have evolved in a more complex manner, and many 'small' factors have interacted. For example, Sweden is a small country; people know each other; they socialize with each other; they have family relations; they live close to each other; they have been schoolmates; they meet in the military service and professional organizations; they have worked for competitors.

In what respects have the relations among different actors been significant to R&D and innovation within the X Corporation? First, one observes that the technical leaders in the 1960s, including Arvid, favoured one specific product area and others were handled with 'the left hand'. The first step of the reorganization in a way released the other product areas from suppression. Gunnar was esteemed as a competent leader and technologist and could manage his division with a new degree of independence and freshness in relations. His authority also enabled him to control conflicts within his division. Similarly, the authority of Arvid had suppressed conflicts in the traditional product area.

Secondly, there was a period of high turnover of technical leaders. Two technical leaders died (Christer and Ivar), one left (David), one moved to a less influential position (Arvid), and two new ones were hired (Johan and Karl); these two were unsuccessful appointments as was the managing director for the traditional division (Holger). The relations became turbulent and non-directed, and technological development declined. Whether or not to install a technical director at the corporate level long remained an issue. Advocates for doing so included Arvid and Nils, but within top management one feels that what was

needed was a 'technical authority' within the traditional product area. To install a corporate technical director would not have fitted in with the present phase of decentralized organization. This, however, does not rule out the technical competence being provided by top management. Incidentally, one reason behind internationalization in the X Corporation was to broaden the base for recruiting managers. As we have pointed out, Sweeden is a small country, and it is hard to find suitable personnel for specialized positions, who do not create unfavourable relations.

10.3 DISCUSSION

10.3.1 Empirical summary

All conflicts involved people, issues and relations as basic elements. Some conflicts were inherent in issues, others in organizational relations, and still others in personal behaviour and ambitions. A number of significant conflict relations were identified. Conflicts appeared in interdependent complexes which changed over time. Conflict histories developed in the organization, and some corporations were for some period of time more afflicted than others. Examples were given which illustrated conflicts related to the establishment of new R&D-units, the incorporation of new technologies, the up-grading of non-traditional operations and stagnation of traditional ones, subcultural changes, reorganizations, and the behaviour of significant actors. The examples showed that conflicts may be instrumental in innovative work and that conflicts among significant professional actors have severe effects and are difficult to handle.

10.3.2 Conflicts and their effects

On a high level of aggregation, the following simple facts about conflicts in large organizations may be stated:

— conflicts are ubiquitous;
— a variety of kinds of conflicts exists and conflicts of different kinds are often linked together in complexes;
— conflicts and conflict complexes change over time;
— conflicts may have good, as well as bad, effects in an organization.

The ubiquity of conflicts is in contrast to the lack of conflict perspective in management, at least where management of R&D and innovation in large organizations is concerned. The fact that conflicts may have good, as well as bad, effects in an organization has not been a common view. Normally, conflicts have been looked upon as bad, both in an organization and in organization literature.

The effects of different conflicts encountered in this study are difficult to evaluate, partly because of an inadequate time perspective, partly because of a lack of information and partly because of the uncertainty related to R&D. However, it may be stated that:

(a) There are a number of tensions around R&D, which are 'in the nature of things' and which cannot be considered 'unhealthy' in due proportion. Such tensions exist, for instance, between interdependent functions, between central and regional operations, between traditional and new operations, between short-range and long-range perspectives, and between autonomy and control.

(b) Internal competition above the individual level concerning different orientations in R&D and innovation may have good effects. Examples were found in Philips, Alfa-Laval, SKF and Astra. The interdependencies between competing parties must not, however, be highly mutual or sequential.

(c) Personal conflicts among significant actors (managers, professionals) generally have severe effects.

Some implications for management may be summarized. To generate ideas and to provide alternative views are vital elements in R&D in a corporation, and here conflicts may be instrumental. But there also have to be mechanisms which in some way regulate the outcomes in order to avoid underselectivity, disintegration, personal conflicts, deadlock and similar effects. Regulation may also be inadequate and produce new conflicts and barriers to innovation. Nevertheless, there are strong cases against a Darwinistic, non-intervention approach to conflicts. Sensitivity to, and awareness of conflicts around, R&D — where they are, how they develop, when they 'go too far', etc. — are needed in general management, as well as a readiness to act when opportunities arise, even though conflict management may be time consuming. How to deal with conflicts related to R&D and innovation and conflicts among professionals seems to be an underdeveloped aspect of management.

10.3.3 Causes of conflicts

The complicated interplay between people, issues and relations over long periods of time makes it difficult to discern special causes and the conceptual categories of explanations have to be rather broad.

10.3.3.1 First-order analysis

A first order analysis of different cases gives a generalized set of relevant factors to consider (see Table 10.1). The roles of growth, reorganization, and change of significant actors are dubious. Growth involves a resource expansion but may also involve overloads and misfits in organization and management. Both contractions and expansions of an R&D organization have limits beyond which conflicts arise. Reorganization and change of significant actors rearrange relations but do not necessarily decrease a conflict potential. On the other hand, the pattern of conflicts may be changed, and the negative effects of conflicts may be redistributed. Thus, divisionalization released operations in non-traditional product areas from the dominance of traditional product operations, at the expense of some conflicts in central–divisional relations. Divisionalization also relieved the pressure on the corporate managing director, while creating conflicts between divisional and corporate perspectives. Moreover, interdependencies on a corporate level were changed, in that sequential dependence between functions

Table 10.1 Factors affecting conflicts related to R&D and innovation in the corporations studied

Factors tending to increase the conflict potential	Conflict-regulating factors	Factors with varying impact on conflicts
Rise of complexity	Smooth resource expansion	Growth
Unstable profitability	Dominant leader	Reorganization
Problems in external relations with multiple interpretations	Submissive behaviour	Change of significant actors
New technologies competences, and professional skills becoming relevant	Dominant issues	
	Reduction of uncertainty	
Changing emphasis on traditional operations	Multiple communication channels	
Faltering policies for organization and resource allocation	Mediating individuals or bodies	
	Weakening of interdependencies	
Troublesome relations between different management levels	Time	
Troublesome relations between interdependent functions		
Selective attention of top management		
Low relation-building abilities among managers and professionals		
Competitive behaviour		
Personified issues		
Subcultural differences		

was substituted for a pooled dependence between the product divisions constituting the parts of the corporate whole. However, in several cases interdivisional dependencies preserved a sequential dependence relation, or even a reciprocal one, on a corporate level.

10.3.3.2 Second-order analysis

The frequent occurrence of conflicts around R&D and innovation has to be explained in the light of:

(a) the characteristics of relations in large corporations;
(b) characteristics of issues in R&D and innovation; and
(c) the characteristics of people involved in innovative processes.

By definition, large corporations involve many relations. Large corporations are, moreover, generally complex and have many critical interdependent relations, many sources of information and much ambiguity, many hierarchical levels, and communication patterns may involve infrequent contacts, time lags, distortion etc. Many people develop attitudes and preferences, make decisions and act on order, on a consensus basis, or on a consultation basis, or they act independently, and each mode of action in the organization may create conflicts at some stage with a higher probability the larger the organization is. There are certainly more positional goods available, as well as possibilities of diffusing a blame. However, careerism, status, elitism and small margins between success and failure are constituents of the culture of a large corporation, yielding tensions in interpersonal relations.

Several characteristics of issues in R&D and innovation tend to increase a conflict potential. Uncertainty yields multiple interpretations, as well as anxiety and tensions. Parallel approaches and selection are natural features in R&D work and long time spans put strain on patience and resources. The exposure to clear failures and difficulties makes innovative work a target for suspicion and distrust, new technologies threaten the established professional power structure, innovations lead to change and substitution of some kind etc. Many of the conventional ways of handling conflicts do not work very well in an R&D and innovation context. First of all, it is hard to recognize the effects of a conflict in this context and mobilize efforts for conflict resolution. Then, diffuse alternatives and fluid decision situations may obstruct resolution through problem solving approaches. Resolution through coercion may yield a guerrilla development or underground behaviour, and focusing on external threats or a dominant issue or appointing a scapegoat may have only temporary effects.

Characteristics of people involved in innovative processes provide still more factors that increase conflict potentials. However, one has to be careful when describing a category of people so heterogeneous as the one considered here. Ideas about certain human types are indeed long lived once they have been established and found useful, no matter how incorrect they may be. Burns and Stalker (1961) discuss the legendary view of inventors as highly intractable individuals. Thus, as long as it refers to innate characteristics of inventors, no doubt many individuals in innovative work have found this view convenient and adapted their behaviour accordingly. Similarly, the energetic aura of entrepreneurs is appealing to some managers, who in the legendary view of entrepreneurs find a means of excluding themselves from adherence to rules and organizational conventions, and this may also add to their reputation and career. Thus, the myths about those involved in innovative processes are to some extent self-reinforcing and in that respect they are important.

It is not hard, in the literature, to find lists of epithets commonly applied to innovators (e.g., describing them as being dominant, independent, assertive, self-sufficient and having little interest in human relations). The affiliation of R&D people with a professional subculture with other goals than those of the corporation is another characteristic as is the lack of managerial abilities. Moreover, this kind of people tend to be territorially oriented, emotionally involved and have a skewed distribution of personality features, implying a mixture of cultivation and

primitive spirits (see Chapter 11). All these human characteristics increase the conflict potential in an organization.

Similar conclusions may be drawn when considering the common view of entrepreneurs as ambitious, hard-driving, goal-oriented, independent etc. An obvious rejoinder would be that the entrepreneurial spirits in large corporations actually are very scarce, and this may or may not be the case. It is clear, however, that conflicts among managers involved in innovation are frequent and highly significant. Moreover, these managers may have conflict-evoking characteristics; for example, they are ambitious and hard-driving and may be competing for power and striving to increase their independence. That socio-political skills do not correlate with inventive skills and professional competence is important to note in this context. When professionals move up in the organization, this is correlated with a higher share of managerial duties. The risk of promotion failures in the form of 'losing a good engineer and getting a bad manager' is perhaps adequately recognized although the reverse situation, when mediocre professionals compensate for a lack of professional competence by developing socio-political skills is not usually discussed. Managers, thus promoted, are likely to become detrimental to innovative work, not only because they de-emphasize competence aspects of work and act as 'plugs', more or less concealed, but also because they tend to create personal conflicts with other managers.

10.4 CONCLUSIONS

A conflict perspective in the study of R&D and innovation proved fruitful in the sense that a high frequency of conflicts of various kinds was encountered. Typically, significant conflict relations were relations among significant actors, relations associated with a traditional part of the corporation, functional relations, relations between central and local authorities and relations among professionals. A number of tensions surrounding R&D are natural and may be beneficial to some extent. Internal competition above the individual level concerning different orientations in R&D and innovation may have good effects, depending upon such things as the kind of interdependence and the mode of evaluation. Personal conflicts among significant actors generally have severe effects. The ubiquity, complexity, dynamics and mixed effects of conflicts suggest, as an overall conclusion, that conflicts in corporations cannot be completely resolved; they can only be regulated, and to some extent they are desirable.

Many conflicts emerged in connection with divisionalization, which rearranged interdependencies and relations among managers. General explanations of the high frequency of conflicts pertain to the characteristics of large corporations, characteristics of R&D and innovation and characteristics of people involved in this kind of work.