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Conference Paper

Relationship between AEROSPATIALE and its Subcontractors: an example of Institutional Dynamics

38th Congress of the European Regional Science Association: "Europe Quo Vadis? - Regional Questions at the Turn of the Century", 28 August - 1 September 1998, Vienna, Austria

Provided in Cooperation with:

European Regional Science Association (ERSA)

Suggested Citation: Talbot, Damien (1998) : Relationship between AEROSPATIALE and its Subcontractors: an example of Institutional Dynamics, 38th Congress of the European Regional Science Association: "Europe Quo Vadis? - Regional Questions at the Turn of the Century", 28 August - 1 September 1998, Vienna, Austria, European Regional Science Association (ERSA), Louvain-la-Neuve

This Version is available at:

<https://hdl.handle.net/10419/113482>

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38th Congress of the European Regional Science Association, August 28-September 1,
1998

**Relationship between AEROSPATIALE and its Subcontractors:
an example of Institutional Dynamics**

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Abstract

In order to offset American competition, European players in the aeronautical industry have had to change the manner in which they think of and apply their trade, moving from a weaponry logic approach to one based on market logic. This change is most notably the result of the decision taken by GIE AIRBUS to impose the new rules of market logic onto its partners, one of which is AEROSPATIALE. As a result of this decision, AEROSPATIALE has modified its system of territorial administration into one of subcontractual relationships, constituting a system of a-territorial suppliers. This paper presents an institutionalist overview of these changes, applying the theory of institutional dynamics and emphasising the power relationships in this industry.

Key words

Institution Organization Institutional Dynamics AEROSPATIALE Aeronautical
Subcontracting

INTRODUCTION

In the last twenty years, interactions between the Aeronautical Branch of AEROSPATIALE and its subcontractors have evolved radically. From a system of fragmented regional subcontractors centered around AEROSPATIALE establishments, a network of businesses, much reduced in number and characterised by stronger links and a withdrawal from the notion of territorial boundaries, has been formed under the aegis of a principal contractor. This paper examines the reasons behind such upheavals and, in particular, how the principal contractor has managed to impose such changes and why.

In answering these questions, this paper focuses both on the market and non-market interactions between the economic players. In order to fully understand the reasons behind these players' behaviour, it is necessary to take account of the principles of non-market interaction. Institutionalists consider that the coordination of economic activity is not solely due to price mediation, but results also from institutions. This concept seeks to point out the role of non-market mechanisms of interaction on economic behaviours. However, this type of analysis of institutions is not sufficient: in addition, it is necessary to adopt an evolutionist vision of institutions. Indeed, economic problems are constantly evolving and challenge the established order of behaviours. For the American institutionalists, the object of the economy is thus not to know how institutions and behaviours stabilise themselves, but how they evolve (Dufourt, 1995). This theory is in fact centred around the evolution of social systems and processes, studying both learning and power mechanisms (COREI, 1995). In this paper we will focus our attention more particularly on power mechanisms. As these apply to interactions between principal contractors and their subcontractors, the notion of power is central. At least one theory, that of American institutionalism, implicates power imbalances between players as the major factor in their changing behaviour. This theory is advanced further by Commons through the notion of conflict. This last approach proposes that institutions themselves provide a setting for actions and thus one cannot fully understand the evolution of behaviour without first understanding the role played by these institutions, not only as to how they influence economic behaviour, but more importantly in understanding the actual processes underlying institutional change itself.

In order to identify these processes, as institutions and behaviour evolve hand in hand, this paper proposes, as a useful starting point, to examine the distinction between the terms institution and organisation, in order to then define institutional change. These definitions will subsequently be applied to the evolution of the relationship between AEROSPATIALE and its major subcontractors. This paper hopes to show that the evolution is the result of the role played by GIE AIRBUS in altering the mindset of the AEROSPATIALE group. Finally, this paper will describe the effect this institutional change has had on AEROSPATIALE's method of local administration. It must be pointed out that the term 'local' here has no defined

boundaries and is to be determined by reference to businesses established in a territory and/or an a-territorial network.

1 THE DISTINCTION BETWEEN INSTITUTION AND ORGANIZATION

Prior to discussing the notion of institutional dynamics, it is first necessary to define the concept of institution. This is best done by also defining the concept of organisation.

Quoting from an observation made by Hodgson (1996) there exists a dilemma in the vision of institutions because sometimes they are a framework of laws - the rules of the game - that contain the individual acts, and sometimes they themselves are the imprisoned acts. Institutions are simultaneously objective structures and subjective human acts. This double definition obscures the analysis of institutions, though this confusion is reduced by introducing the notion of organisation. This allows the two dimensions of the collective action to be described: the institutional dimension in which players fix the framework for their actions, and the organisational dimension in which players act towards a common objective. In the words of Bazzoli and Bouabdallah (1993) the idea is that the institution covers the substantial and the organisation the functional.

1. 1. Institutions as structured groups of representations

American institutionalism considers, following cognitivist developments, that cognition and action are clearly interdependent. However, according to Varela, cognition does not come before the action. "Far from being the representation of a pre-given world, [cognition] is the link between a world and a spirit formed from the history of the various actions that brought about one's being in the world" (Varela et al.¹, 1993, p.35). This argument incites us not to remain not at a single level of behaviour, but to integrate cognition. Thereafter, from an institutionalist viewpoint, players are no longer alone at the center of the analysis, because it is the knowledge of their representations that permits an understanding of their behaviours.

In effect, during one's actions, each individual builds him or herself an image of the world, a representation. The role of this representation is to convert information into knowledge, to give meaning to the data collected. Social status is entirely contained in this conversion: if the interpretation of data is an individual matter, it is strongly influenced by the social context (Hodgson, 1988). This contributes to the construction of a vision of common reality in a social group.

The various representations maintained by the individual are not simply juxtaposed one next to the other. According to cognitive sciences, they are organised as models. As is the case for

the representations they order, these groups are carried by individuals, but are impregnated by the collective. They can be manipulated to construct and solve an action issue (Olivier, 1996). This means that representations guide behaviours, and that knowledge transforms into action.

This paper maintains the idea that these structured groups of representations can be understood as if they were institutions, thereby adopting a Veblenian perception of institutions.

Indeed, for Veblen, institutions are not entities in themselves, but a group of ideas (COREI, 1995). They are the link between thought and action, in a way the missing link. Sjöstrand (1995) adds that institutions are infrastructures of human interaction. They are simultaneously shared amongst individuals and are therefore social in the same way that representations are. In this sense, institutions are collective objects², a construction which presupposes periods of conflict. They are therefore not objective phenomena, but of mental constructs which play an essential role as a cognitive framework (Hodgson, 1993; Perrin, 1993; Renault, 1996). They form a necessary informational support to place our perceptions in order for the realisation of actions in a complex economic environment, which is still only partially known and understood. Institutions impose a social cohesion on human action (Hodgson, 1996) and should no longer be considered as simple organisational structures, but as standard models defining what needs to be done in a society (Hodgson, 1988). Again, cognitivist theorists define a role here for representations, in the interpretation of information. Institutions provide a meaning to the information that they bring, for these are subjective ideas, or convictions. The goal, therefore, is to establish a model of behaviour in agreement with this conviction. This takes place by the production of rules.

1. 2. Functions of institutions: to control conflicts and homogenise behaviours through the intermediary of rules

One can point out two fundamental functions of institutions: they control conflicts of interest and social phenomena (Bazzoli and Bouabdallah, 1993), and they construct a social order by achieving an homogeneity in behaviours. These functions are brought about by the intermediary action of the rules that make up the identity of institutions (Villevall, 1995), and which form the bond between the institutional and the organisational dimension of the collective action. They are of various types, from the most formal to the most informal, from procedures to customs.

Individuals or organisations produce rules according to the institutions they support, so as to regulate their conflicts. Institutions, in fixing rules, define a zone of tolerance in which individual or collective behavioural models may be exercised (Hamilton, 1993).

One does not observe only cooperative relationships in this process of rule production. Rutherford (1983) recalls that for Commons, rules came about not only from institutions but

also from power brokers. Conflict is present in this rule production phase as it is in other phases of rule evolution (as will be demonstrated further on in this paper).

Institutions do not, however, function always as constraints or rigidities (Hodgson, 1988). Rules also permit the homogenisation of behaviours by establishing models. In defining behaviours, rules render them more alike and therefore more predictable. This does not mean that a rule determines the action, but it offers it a reference point (Dupuy and Kechidi, 1995), without taking away from the players their capacity for coordination. It intervenes when players reach their limited cognitive capacities by allowing an economy of knowledge, even if this remains subject to difficulties in interpretation. Rules are presented as "Collective Cognitive Devices": they are therefore both cognitive and collective in nature (Favereau, 1989). Consequently, they provide information to players in addition to their own coordination. This coordination can take place at the heart of an organisation expressing the intentions of their individuals, intentions that institutions do not possess (Hodgson, 1996).

1.3. Organizations, producers of routines

Organisations are social groups created to obtain a set objectives. The coordination of players engaged in an action occurs as a result of the putting into place "(...) of behaviours particular to a certain group of persons who conform to them. These persons will identify themselves in the form of an organisation that is, an entity of social coordination whose boundaries are relatively simple to define and which functions in an enduring manner to obtain an objective or a group of objectives shared by economic players who find, in this objective, their reason for belonging to the organisation" (Jayet, 1996, p. 251). Collective action is therefore structured, with institutions providing the behavioural regularity which is essential for the efficiency of organisations. In effect, "(...) organisations constitute a forum for defining practices and strategies of players operating within a body of rules held up by institutions" (Kirat and Lung, 1995, p. 6). Thus, the inherent uncertainty in all actions is reduced. The criteria of choice and the field of possibilities are maintained by institutions, with individuals exercising this choice within organisations. Individuals therefore act in the space provided by the rules and in the space available in their interpretation.

The primary function of organisations is to put into place problem solving strategies so as to reach their fixed objectives. This takes place, in some cases, by the production of rules within the framework set up by their underlying institutions. The organisation possessing the most power (the key organisation) occupies a position in the power structure which is sanctioned by the other players. If it holds a strong position, it will attempt to dictate interactions by producing rules to its advantage. One such example is that of certifying organisations in the civil aviation

industry which prescribe safety regulations that must be followed for each model of aircraft, under the penalty of prohibition of flight (and therefore of sale).

These organisations then conduct the required verifications for the granting of such certification: they therefore also generate the routines that allow the rules they promulgate to be applied. Hodgson (1988) explains, indeed, that the organisation with power tries to create modes of behaviour that are lasting and routine³. If rules are of a cognitive nature, routines as such are of an action nature: to follow a rule is thus to apply an ensemble of routines, the rules becoming operational under the form of concrete actions derived from these routines (Dupuy and Kechidi, 1995). Therefore, all organisations produce routine behaviours⁴ in order to apply rules.

Institutions, rules and routine behaviours are evolutionary by nature. This dynamic process is not purely mechanical: it is the product of a human action, modelled and limited by the society from which it takes its roots (Wilber and Harrison, 1978).

2 THE TWO SOURCES OF INSTITUTIONAL DYNAMICS: TECHNOLOGICAL INNOVATION AND RELATIONSHIPS OF POWER

It is the opinion of the authors that change, in the broad sense of the term, can take place on two different levels: it can affect only routines whose evolution will be restricted by the rules and the institutions which underlie them, or else affect routines that are not compatible with these rules and institutions, thereby forcing these rules and institutions to evolve. Change may even directly affect the rules and institutions themselves. In the first case, the dynamics are solely behavioural, in the second and the third case, they will be qualified as institutional. This paper will address only the last of these situations.

It is possible, from this discussion, to define institutional dynamics in two complementary ways, according to whether it evolves from the appearance of new issues or from the dynamics of power relationships.

The appearance of a new non-mastered technique and, more generally, the evolution of knowledge that renders behaviours obsolete, is the first source of institutional dynamics. This is defined here as a process bringing about representations and rules as a result of emerging technological knowledge or even of new problems.

This brings us back to a Veblenian perspective of institutional change. For Veblen (1899) institutions are not a dynamic factor of change, the main cause of evolution being technology which introduces new ways of doing things and of thinking. The source of change is therefore outside of the institutions. Thus, change is understood as a motivating force of rules issuing from the emergence of new technological know-how, and of new issues (Bazzoli and Kirat, 1996).

Nevertheless, to conceive the evolution of knowledge as a unique source of dynamics is reductionist, because, for many institutionalists, technical change is not the motivating force behind social and economic change. On the contrary, this change stems, at least partly, from the dynamics of power relationships. Thus "(...) the analysis of institutionalists, in taking into account that conflicts and balances of power between social groups are essential for the comprehension of social and economic dynamics, develops a system in which voluntary social regulation of institutional evolution is a major theoretical and practical risk " (Bazzoli and Dutraive, 1995, p. 52).

This introduction of power into the analysis permits one to highlight:

- mechanisms of institutional inertia. A situation of institutional deadlock can appear if individuals or social groups prove to be incapable of establishing the rules and institutions. The problem is in knowing whether they have the power to impose these changes, which will be realised only at the price of conflicting tensions with the dominant institutions. Indeed, problems of incompatibility between the various representations can occur. Generally speaking, institutional inertia is always present as a function of institutions is to bring about a stabilisation and homogenisation of behaviours. Institutions open the way for human action as much as they restrain it, in accordance with the set power structures (Clerc et al., 1995). Thus, institutional dynamics is the result of balances between conflict and cooperation, and between routine forces and forces of production innovation (Villevall, 1994);
- the active role given to individuals and to social groups in the evolution of behaviours. This is an artificial concept of evolution, since this dynamic is mastered by the individuals or social groups that hold power. It is to Commons (1931) (1934) that one must attribute the theory that, rather than the metaphor of natural selection used by Veblen, use be made of the Darwinian idea of artificial selection, thereby integrating human will into the social sciences (Bazzoli and Kirat, 1996). "Artificial selection emphasises the active role of individuals, groups and legal authorities and of conflicts between groups of unequal power, which are considered as the major processes of evolutionary adaptation of institutions (...) " (Clerc et al., 1995, p. 202). Institutional dynamics are therefore thought of as a process of creation, artificial selection and application of institutions and of rules brought about by power brokers that take pragmatic decisions in order to obtain the objectives they fix for themselves, by placing pressure on the power structures. Institutional changes can therefore be brought about by a key organisation imposing its rules on others.

Finally in this first section, it must be noted that very often the two sources are linked, the first expanding or restraining the choice of institutions and rules offered to the holders of

power. Innovation has an effect on the range of possibilities, the holders of power on the choice itself (this could mean, for example, that the holders of power orient innovative effort towards their own objectives).

In examining a particular case in detail, this paper seeks to illustrate this process of artificial selection of institutions and rules, a selection realised according to objectives. The evolution of the relationship between AEROSPATIALE Branche Aéronautique⁵ and its subcontractors can be attributed to the development of the AIRBUS program, which upset the power relationships between European players in the aeronautic industry. In particular, this paper will examine how this affected the method of "local" administration within the Toulousian branch of AEROSPATIALE.

3 THE END OF THE SIXTIES: THE LOGIC OF WEAPONRY PREVAILS IN THE AERONAUTIC SECTOR

3. 1. Weaponry logic...

Players within the aeronautic sector (manufacturers, States, military) perceive this industry as vital: military considerations dominate, with technology and the role of States being decisive factors (Gormand, 1993). Aeronautics, at least in France, is symbolic of national independence and of technological advances.

In this type of representations, the technological aspect uppermost: a good aircraft is an aircraft that performs technically (an example of this being the CONCORDE). Here, the client buys the product as it is, without his or her requests being taken in account.

This structured ensemble of representations incorporating the role of the State, the influence of technology and the lack of interest in respect of the needs of the client constitutes an institution that Muller (1988) described as "weaponry logic". AEROSPATIALE's transformation away from the logic is what interests us here.

The adoption of the institution of weaponry logic by AEROSPATIALE and by other players in this sector, led to the establishment of the following rules:

- manufacturers are content to wait for a government decision. The State, as the holder of power, designates the manufacturer(s) and indicates the characteristics of the aircraft to be constructed. It takes on the roles of client, financier of programs and shareholder of the enterprises that build the aircraft;
- the production costs and therefore the price of the aircraft are not essential criteria: the client pays what it is required. The weaponry logic involves a budgetary-type rule of management (possible budget blowouts are covered).

3. 2. ... applies to subcontractual relationships

Subcontracting provides a mechanism whereby the principal contractor can externalise the management of labour: it is an ideal way of adapting the volume of work to the market⁶.

In weaponry logic, it is possible to discern several characteristic rules in the subcontractual relationship:

- quality is unchanging over the course of time, and regardless of the dominant institutions, due to the security requirements which are characteristic of this industry;
- the influence of the State is such that it obliges manufacturers to use local industrial materials;
- one subcontracts only the production of elementary items, according to trade experience. No expertise is transferred due to the need to maintain total control of the technical know-how;
- the price of the subcontracted work is not a fundamental criterion. The rule of management is budgetary by nature;
- finally, AEROSPATIALE assumes the final responsibility of the product in which the subcontracted items are integrated, and possesses the industrial property of the ensemble.

In the framework fixed by these rules, a "linear" scheme of routines is applied by the provider and the receivers of orders:

- 1 establishment of terms of contract by AEROSPATIALE: the principal contractor specifies when to work (production period), what work to undertake and in what manner (approval procedures, supply and information networks and systems of adapted management, checks on investments made...) (Larré, 1994);
- 2 passage of orders as they come without possible pre-warning for the subcontractor;
- 3 production of items by the subcontractor;
- 4 deliveries to the principal contractor;
- 5 a posteriori controls carried out by AEROSPATIALE.

Subcontracted parts can be complex without forming a complete system. In most cases, relationships are not particularly close because the production focuses on elementary parts controlled by the group.

3. 3. Local administration at AEROSPATIALE's Toulousian site⁷ using weaponry logic: geographical proximity is uppermost

In weaponry logic, political pressures and regionalism are predominant factors in the choice of a local subcontractor. The State applies its territorial development policy through AEROSPATIALE, a public group. Thus, each site fragments its subcontracting within its region of establishment. The site occupies a central place in the organisation of the group and possesses a genuine autonomy that is expressed notably in political terms. Management of subcontractual relationships is performed locally: selection of businesses, signing of contracts... This type of organisation mirrors the history of AEROSPATIALE itself, punctuated as it has been by successive fusions of small local aeronautic manufacturers.

The establishment thus has the role of driving force as described by Perroux (1992). It is up to the sites to be involved in the creation of a geographic proximity. Kirat and Lung (1995) define this to mean a social construct produced by transportation and communication infrastructures, that consequently exceeds the simple physical proximity (and therefore the notion of distance). In this sense, AEROSPATIALE was already established in this territory⁸ with a role to organise this type of contact. It is the encounter between a public group whose actions extend beyond the logic of costs, and a Toulousian territory centred on spacial and aeronautical activities formed over the course of time⁹, that built up a geographical proximity.

4 THE END OF THE 1960s TO THE END OF THE 1980s: THE AIRBUS PROGRAM FOUNDS INSTITUTIONAL DYNAMICS

Institutional dynamics in the French aeronautical industry unfolded in two parts:

- in the beginning it was not fixed by any particular player, and stemmed from the inefficiency of rules in weaponry logic (cf. first source of institutional dynamics);
- then it was taken up again and fixed by AEROSPATIALE's key player, GIE AIRBUS, thus stemming from power relationships (cf. second source of institutional dynamics).

4. 1. Institutions that evolve in response to new issues

Faced with American competition superior in industrial and technological terms, with the size of European manufacturers being too small, with a high entry price into the market, and with the failure of the CONCORDE - demonstrating that not taking the needs of the market into

account is a source of inefficiency - institutions supported by European players evolved in two directions:

- the need to intensify cooperation in order to provide a common response to American competition;
- a good aircraft is an aircraft that sells.

Industry players began to draw up new rules according to the preceding institutional evolution. These had to bring to their actions a greater commercial and industrial coherence. At least three new rules were defined:

- cooperations become unequal in order to avoid duplication and to maximise skills (industrial coherence);
- produce a simple and inexpensive aircraft that corresponds to the needs of the market in terms of quality, performance, delivery periods, and costs (commercial coherence). This brings about a reduction of costs (notably subcontract purchases) and a reduction in delays;
- finally, to impart a sense of responsibility into the manufacturers in respect of technical and commercial standards.

It therefore appears necessary for manufacturers to apply these new principles of coherence, to create GIE AIRBUS.

4. 2. GIE AIRBUS¹⁰ as a key organization, imposes institutional dynamics on its partners

GIE AIRBUS forsook weaponry logic little by little, and moved its frame of reference to focus on the market (Muller, 1988). This is the second phase of institutional dynamics: GIE, born of the will of manufacturers, now provides the impetus for institutional dynamics within these same partners. As a result of its chosen organisational structure, AIRBUS is the dominant player that imposes its rules, and has the responsibility for any uncertainty and information in the industry:

- GIE distributes the industrial load according to the competence of its partners. These partners retain the technical control of their responsibilities and of the interface between elements (industrial coherence). This load distribution has brought about a specialisation of partners, ensuring power to GIE, which is alone in maintaining a global approach to difficulties;

- it has built a unique interface with client companies (commercial coherence): it brings about commercial prospecting, fixes the sale price of aircraft, assures after-sales service and flight tests. It therefore possesses a unique cognitive resource, the knowledge of the market, that serves to increase its power.

GIE makes choices in very complex situations where it is necessary to combine commercial and technological variables: it is this aptitude that gives it this dominant position in the decision-making tree (Muller, 1988). Each partner recognises the "market logic" institution as dominant, which allows for the hierarchical arrangement of the other institutions. However, this is taking place slowly and has not yet reached its conclusion: there is as yet no rupture between the logics but rather a hybridisation between the two types of institutions, that of weaponry and that of the market.

5 END OF THE 1980s: AEROSPATIALE RATIONALIZES THE SUBCONTRACTUAL RELATIONSHIP

GIE, as the key organisation, puts the new rules into effect via their partners in order to better respond to the needs of the market. AEROSPATIALE echoed these same constraints on its subcontractors. From this point on, even if the essence of the subcontractual relationship stayed the same, the rules that governed it evolved towards the market logic. The term 'subcontract' now covers classical-type relationships right through to more elaborate relationships. In these last cases, the objective of such "global" subcontracting is to seek out enterprises which relate with AEROSPATIALE in the same manner as this group relates with GIE. The subcontractor takes the industrial, commercial and financial risks, but the project management falls back on AEROSPATIALE: in this sense, this is not an equal partnership, but rather a transfer of costs and risks.

5. 1. The new rules and routines of the subcontracting relationship

AEROSPATIALE applies the new rules of global subcontracting that reflect the rules of market logic:

- the group must receive only the manufactured items, protected, checked, ready to assemble (Larré, 1994);
- decrease the number of subcontractors and establish more stable and reliable relationships;

- subcontract out complete systems;
- widen the search for subcontractors to include the entire country, which implies that AEROSPATIALE no longer assumes the role as supporter of regional industrial materials;
- the subcontractor must maintain a certain economic autonomy, in the sense that AEROSPATIALE must not be the only client. This rule is indispensable in ensuring the viability and dynamism of the subcontracting system, notably in case of a reduction of orders;
- market logic implies the abandonment of the budgetary rule in favour of the results rule: meaning an increased pressure on costs, but also a participation in any profits realised from the success of an aircraft;
- AEROSPATIALE assumes final responsibility for the integrated product and possesses industrial property in the product.

These rules are, in the end, only an extension of new tasks to traditional subcontracting. However, their application has resulted in the implementation of new routines by AEROSPATIALE.

Specifically, subcontractors are categorised into two classes:

- the second of these classes refers to the classic subcontracting by AEROSPATIALE already discussed in this paper: one subcontracts a "trade", a specialty. There were 170 such trades in direct contact with AEROSPATIALE Branche Aéronautique in 1993, 80 in 1996, and probably only 60 in 1997. They are due to be phased out at the end of the A300/A310 program. Moreover, the industrial part of the aircraft (the cell) is diminishing in favour of the systems part, which is serving to amplify the phenomenon. For this class, the rules and routines stemming from the weaponry logic continue to be applied;
- the first class of subcontracts refers to the production of parts that call on the expertise of different trades. It is here that global subcontracting has been implemented. The scheme for the application of routines in this case becomes:

-1 evaluation and selection of the subcontractor: the quality-control is performed a priori by AEROSPATIALE. The verification of the subcontractors facilities, the reliability of its organisation, and the trust that one can place in it, are substituted for the evaluation of its products (Larré, 1994);

-2 research and development is carried out by the subcontractor. This confers on them a financial participation in the industrial program. There is then the requirement to find alternatives to State financing, especially for aircraft produced after the A320. To offset these research and development costs, subcontractors

obtain monopolies over a certain number of aircraft. They can therefore plan future estimates of their production, with orders no longer being immediate;

- 3 "just in time" production of parts by the subcontractor with reduced stock and batches;
- 4 final quality-control of parts performed by the subcontractor;
- 5 delivery to the principal contractor. The go-aheads to make the delivery are delayed until as late as possible.

This global subcontracting has permitted AEROSPATIALE, in collaboration with efficient enterprises, to achieve significant gains in productivity. Furthermore, its internal capacities for research, production and quality-control have not been increased, which is a way of distributing the problems associated with labour management.

Finally, as will be demonstrated, this new type of subcontracting has strengthened the organisational bonds between enterprises.

5. 2. "Local" administration by AEROSPATIALE using market logic: geographical proximity declines

For the second class of subcontractor, geographical proximity continues to play an important role because it allows a better circulation of information and of people, especially when subcontractors are not computerized or do not have access to the data banks of the principal contractor.

In contrast, for the first class of subcontractors, geographical proximity is no longer sought-after by the group. Indeed, the disengagement of the State from the civil aeronautical sector has allowed AEROSPATIALE to broaden its search for subcontractors to the entire country, causing it to abandon its support of local industrial materials. The group seeks to transfer this role to the first class of subcontractors by linking its contracts for global subcontracting with incentives and commitments to employ second class subcontractors. This geographical proximity can sometimes produce negative effects: the principal contractor can get caught up in social conflicts, or the subcontractor, too accustomed to the presence of the principal contractor, may not seek to diversify his client and product base as required.

Consequently, geographical proximities that one observes today in the region of Toulouse are the result of past events and are no longer fostered. The institutional change described in this paper has modified the method of "local" administration. This rationalisation of relationships has permitted AEROSPATIALE to construct an a-territorial network of subcontractors: is exercised cooperations that establish the division of resources between partners and that produce collective know-how.

CONCLUSIONS

In conclusion, it is proposed to return briefly to the consequences, for Toulousian subcontractors, of institutional dynamics. These consequences differ according to whether the subcontractor is categorised in the first or second class. Subcontractors in the first class become increasingly specialised, increasing their know-how through training and the acceptance of greater responsibilities. With their competence and qualification level increased, their relative autonomy is strengthened. However, the aim of AEROSPATIALE is to subcontract product with few suppliers, thereby implying a reduction in the number of subcontractors having a direct link with the group. Many are therefore relegated to the second class of subcontractor, without having access to the required resources by the principal contractor, often because they have not known how to meet these demands in time. Institutional dynamics must always face up to the inertia of those who are subjected to it. However, subcontractors who have understood the meaning of institutional dynamics, and whose institutions have evolved, have come out winners. Because a successful adaptation is firstly a change in the institutions being maintained by the players, it is important in an economy to integrate the notion of institution, as defined in this paper, so as to demonstrate its role in the success or the failure of enterprises faced with industrial change.

FOOTNOTES

- 1 Cited by Olivier (1996).
- 2 Veblen (cited particularly by Villeval, 1995), defined institutions as "settled habits of thought common to the generality of men".
- 3 Thanks to the distinction between institution and organisation, we wish to avoid here the confusion sometimes made between institutions and stable behaviours. For example, Foster (cited by Waller, 1982) defines institutions as proscribed structures or prescribed correlated behaviours or attitudes largely agreed upon between persons organised to reach a common goal. It is the function of the institution to establish such behaviours, and not its nature.
- 4 Behaviours, qualifiers of routines, are defined in five dimensions: they are regular and predictable; they are automatic; they possess a character that is more or less tacit; they are more or less conscious; and finally, they reduce the knowledge and deliberations necessary for the action (Egidi et al., 1994).
- 5 We will use successively in this text the terms Aircraft Division and Branche Aéronautique. The Aircraft Division took the name Branche Aéronautique following Operational Center reorganization undertaken in 1995.
- 6 Subcontracting is considerable in this sector: it represented 10% of all construction in the 1930s, 35% in the 1950s, and at least 50% today. The B777, the most recent of the BOEING aircraft, is subcontracted to near 70 % of its value. AEROSPATIALE Branche Aéronautique subcontracts 40% its production (compensations, global subcontracting, classic subcontracting), this level will soon have to climb to 60%.

- ⁷ The three other sites of Branche Aéronautique are at Méaulte, Saint-Nazaire and Nantes.
- ⁸ Concerning establishment in a territory, see for example Gilly and Grossetti (1993).
- ⁹ Concerning the history of the setting up of the Toulousian territory, see Grossetti (1995).
- ¹⁰ GIE is composed of four shareholders: French AEROSPATIALE (37.9%), the German DASA (37.9%), the British BAe (20%) and the Spanish CASA (4.2%).

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