



Airbus: Partners and Paradoxes

Pierre Muller

Since its creation twenty years ago, Airbus has generated controversy. The recent Franco-German disagreement over the transfer of the A320 final assemblage to Hamburg is merely the latest episode in the incessant polemics over both the difficult conception and unexpected development of a programme that has given Europe the chance to resume a position in the civil aircraft market. Step back is therefore necessary in order to put things in perspective, and attempt, insofar as it is possible, to go beyond these squabbles. Many of the ground-shaking declarations that surface here and there regarding Airbus are grave misjudgements of the real programme, admittedly somewhat disconcerting. In order to understand its workings, the only solution is to refer back to the history of Airbus because the current relations between the different partners are its direct product. And just what can be learned from Airbus' tumultuous history?

To begin with, contrary to what was predicted at the beginning, this history shows that the development of Airbus is tightly linked to the action of one, very particular actor, the *Groupement d'Intérêt Economique* (GIE) Airbus Industrie, whose role has gone far beyond the official functions of "marketing, sales and support" conferred on it in the text of the intergovernmental agreement of 1970.

In the second place, it can be remarked that the "Airbus system" is far more complex than appearances and the statements of the actors themselves would indicate. Precisely this complexity explains at the same time both the unexpected effectiveness of the system and the antagonisms which radiate from it continuously.

Finally, the history of Airbus shows a profound transformation in the behaviour of the states participating in the programme, states which today must learn new rules to the game.

The ascension

In the early 1960s, the explosion in air transportation growth confirmed the necessity for a renovation of airline company fleets. One of the prospects was to move into supersonic transportation: it led to the construction of the Concorde. The other path was towards the construction of subsonic aeroplanes capable of transporting 300 to 400 passengers. In 1966, Boeing opened the era of mass transport and of the "wide-body" jet with the 747, destined for longer range routes. The McDonnell-Douglas DC-10 and the Lockheed Tristar followed closely behind, both tri-engines of medium range.¹ In Europe, the aircraft industry worked on several different projects designed to replace the Caravelle in France and the Hawker-Siddeley Trident in Great Britain. It was a period of great technological uncertainty, as much so in the characteristics of the fuselage as in the nature of the engines.² At the start, German industry was absent from these debates.

In 1966, French and British ministers met, and in liaison with their respective administrations defined the specifications for an aircraft of short-to-medium range capable of transporting 250 passengers 1500 kilometres. Two industrial groups responded to the contract offer: Hawker-Siddeley, Nord-Aviation and Bréguet on one side, Sud-Aviation and the British Aircraft Corporation (BAC) on the other. In 1967, the governments chose their respective manufacturing representatives, Hawker-Siddeley for Britain, and for France, Sud-Aviation. In other words, the choice by the government administrations separated the original industrial teams for the sake of state strategies aiming to divide up and share programmes within the industry: BAC already had the Concorde, so it was out, and Sud was the "official" contractor for civil aircraft, so it was in. Vigorously pushed by their government at about the same time, the Germans joined in the project, and the intergovernmental agreement of 1967 was signed in three. It provided for a definitional phase of one year aimed at securing orders from the three national airline companies.³

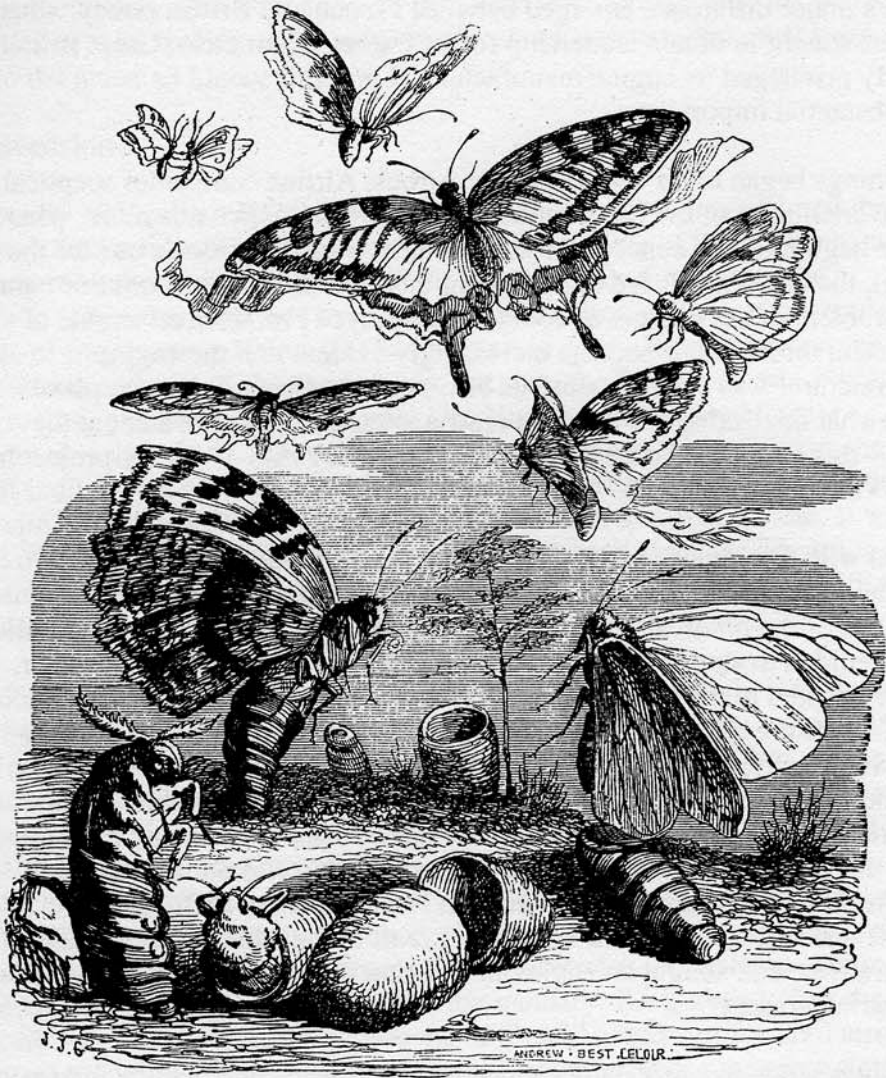
As in any enterprise of cooperation, the most difficult problem to settle was that of leadership. Due to this difficulty and against all industrial logic, Sud-Aviation became responsible for the fuselage, and Rolls-Royce for the engines.

Here a major difference emerged between French and British policy: whereas France sought to obtain leadership for its frame constructors, Great Britain clearly privileged its engine manufacturer. Later this would be of substantial importance.

But things began to go very badly for Airbus. Airline companies sceptical as to the credibility of the programme refused to join in. What is more, whereas at the beginning the conception was for mass transportation (a bus for the skies), the client needs led to a constant increase in weight. From this came the problem of the engine: of course Rolls-Royce promised an engine of sufficient thrust, but it became increasingly evident that the engine manufacturer was concentrating its efforts on motoring American planes, somewhat neglecting—with good reason, considering the context at the time—this hypothetical European programme. By mid-1968, the project had been virtually abandoned.

Faced with this situation, the programme directors Roger Béteille of France and Felix Kracht of Germany made a decisive choice. Because of the political, technological and industrial wavering of the project, they decided to study clandestinely a new version of the aircraft: smaller, better adapted to the needs of the users and able to be equipped with an engine “off the shelf”.⁴ This episode is important because it constituted a decisive departure from the political logic which had prevailed until then: on one hand, Béteille and Kracht attempted as much as possible to “stick” to the demands of the *world* market without tying any hands with the specific requirements of a national carrier, and on the other, they reviewed the compromise between France and Great Britain which sealed the configuration of the aircraft in the name of diplomatic imperatives, and sought an engine in function of a commercial and industrial strategy.

Thus when the new project designated, A300B was unveiled, the industrial and commercial decision sequences became more autonomous with regard to the political decision sequence. Two contradictory phenomena totally changed the programme’s course. First of all, having seen the project drift further away from the original specifications and the position of Rolls-Royce put into question, the British government withdrew from the programme, thereby leaving Hawker-Siddeley without any political support (in 1978, Great Britain rejoined Airbus on the occasion of the launching of the A310).



Taking off

Second, the German government exerted vigorous pressure on France to see that the programme was pursued by the two parties (Spain joined shortly thereafter). In effect, for Germany the project constituted a unique opportunity to return to the civil aircraft market.

Under these conditions, the programme was officially launched in 1969. In December of 1970, after a year and a half of tough Franco-German negotiations, the legal form of the entity to direct the programme was defined: the GIE Airbus Industrie. Contrary to the hopes of some of Aérospatiale's (at this point the only nationalised constructor in France) directors, the firm did not obtain the role of operation supervisor. The German side, conscious of the risk of falling under total control of the French manufacturer, secured that the coordination of research and production, client interface and the highly symbolic function of test-flying be guaranteed by Airbus Industrie, and not by one of the manufacturing partners.

This was a fundamental decision, for it gave the GIE sufficient autonomy of decision for it to assume the programme's leadership. The Airbus directors then shaped this leadership by the exercise of their commercial expertise. The GIE in effect imposed itself progressively on the world market as a full fledged aircraft constructor. In order to take best advantage of their principal resource, the Airbus Industrie directors applied new sales techniques scarcely used in Europe, including systematic visits to all clients, the organisation of demonstrations with the prototype A300B and the cultivation of new markets in full expansion, as, for example, in the case of the Far East. After hard beginnings, the efforts of the directors paid off: while not putting America's leading position into question, Airbus captured a significant part of the world market in large carriers with symbolic contracts like those of Korean Airlines, Thai, South African and Eastern (US).

The significance of these initial gains was that Airbus began to benefit from sufficient credibility in the eyes of the airlines to an extent that it was able to weaken the American monopoly, which no other European constructor had ever succeeded in doing in more than an ephemeral way. Commercial success in turn brought on two principal consequences. First of all, the Airbus GIE became a mandatory channel for whomever wanted to participate in civil aviation in Europe, eliminating all other attempts, most notably between France and the US. Second, success considerably reinforced the GIE's position at the very core of the Airbus system, allowing its directors to impose their points of view regarding the expansion of the Airbus line.

Airbus Industrie was able to position itself as the key actor in the decision process (especially for the launching of new versions or new models) because it was keeper of the most strategic expertise of all: commercial expertise.

However, this expertise did not become strategic until the moment when a new reference system appeared in the programme, to the detriment of the hitherto prevalent "logic of the arsenal": it was the market referential.⁵ To begin with, it was a question of a new image for the aircraft constructor: from this point on, there was the acknowledgement that the aircraft had to be conceived of as a function of market demand, and not of the requirements of either state or engineer. In talks with the respective manufacturers on the choice of equipment or on the characteristics of the aircraft, the Airbus Industrie directors systematically made their point of view the one accepted because it reflected the needs of the market.

Shedding the state-industrial complex

The history of Airbus therefore clearly shows how Airbus Industrie progressively came to be the *principal mediator* between the different systems of expertise, the actor that built coherence between the different sequences of decision all the while insuring that politicians financed the aircraft which corresponded to the market, and the other way around, as well. But how did the GIE come to play this key role of substantial power and influence, when formally it held merely a role of coordination? By securing acceptance of its own referential founded on the primacy of the commercial aspect, as opposed to political criteria and the expertise of the engineer. For this reason the turning point in the history of Airbus is precisely the substitution of a commercial referential for what could be called the "arsenal referential". Yet this did not mean that political or technical expertise ceased to exist: the aeroplane has to be a good aeroplane. On the other hand, it did mean that commercial criteria from this point on decided a hierarchy orchestrating the political, technological and manufacturing decision processes.

Accordingly, technological choices to an increasing extent had to pass strict criteria of commercial effectiveness, and the government decision to finance a programme no longer depended on anything but the chances for the product's success on the market. Without a doubt a circular relationship existed between the growth of the role of Airbus Industrie in the whole system and the prevalence of the commercial referential over the arsenal referential: the more the role of Airbus Industrie grew, the more weight the market logic carried, and the more this logic prevailed, the more the GIE was able to enforce its position in the decision process.

The true change in Airbus Industrie arose not from a disappearance of differences in the rationales of the various decision sequences, but from the fact that these rationales came to be expressed in the language of the market. As mediator, the team of Airbus Industrie directors played a role of go-between for the different conceptual universes confronting one another at the start of the decision process: administrators stressing the procedural and regulatory requirements, engineers giving prevalence to technical constraints. The team constructed an *overall representation* acceptable to all the actors because it integrated their respective expertises while at the same time changing their perception of their environment. Progressively (from 1968 to 1978 or so), there was a change in the reference system in function of which the various Airbus actors perceived the world and oriented themselves: rationales seemingly irreconcilable at the beginning—the clashes between them nearly having provoked a premature failure of the programme—fell into place and were organised in a relatively coherent system. Closely linked to this phenomenon is the fact that each actor finally recognised the dominance of one fundamental norm, the norm of the market, that arranged according to its own hierarchy all the other specific norms in each sequence of decision. Indeed, by looking back at the history of Airbus, one begins to understand the GIE's strategic position in the workings of the decision process.

Mutual organisation

Who could say with certainty when the GIE Airbus Industrie was created in December 1970, whether the German and French signatories were truly conscious of having set up one of the most surprising systems of industrial organisation to function at the time? Actually, the Airbus programme is a remarkable example of what Raymond-Alain Thiétart and Christian Koenig call a "mutual organisation": "the case where organisations actually sign a form of long-term contract but where transactions do not take place between the firms, taking place instead between each firm and an adjoining organisation". And more specifically, "the mutual organisation is a long-term relationship in which each organisation is both main actor or supplier of capital as a member of the mutual organisation, and at the same time agent of this same organisation, as well".⁶ Furthermore one can add that in the case of Airbus, the mutual organisation associates partners originating from different countries.

Supervising and organising the complex management system was the main challenge facing the Airbus directors: how could a minimum of coherence and

effectiveness be maintained taking into account the multi-faceted and heterogeneous nature of the different levels of decision? At the same time, it is clearly the power relations between the different members that constitute the critical point in the functioning of this type of organisation: unlike in an integrated organisation, here there is no strictly hierarchical relationship between the partners and the GIE, insofar as the latter to a certain extent is the depository of a common possession or general interest that transcends the actions of the individual members. It is precisely this relationship that explains the paradoxes in the workings of Airbus.

As already noted, the GIE Airbus Industrie occupies the core of the system. This French legal entity possesses a dual commercial and technical function. On one hand, the GIE is the sole negotiator vis-à-vis the clientele. It insures that market surveys are made in order to evaluate the market's future needs, is responsible for marketing and handles sales contracts and after-sales service. On the other hand it insures the synchronisation of the technical and manufacturing phases in the programme, coordinating the definition of products and evolution of characteristics to be presented to the clientele. Certainly, these responsibilities are carried out with the technical support from the various domains of the partners.

In addition, Airbus Industrie collects and distributes the profits among the partners. The GIE is fiscally and financially transparent: profits and losses are recorded on the books of the respective member companies, a matter which obviously does not facilitate financial evaluation of the overall results of the programme. Each partner can integrate the results of "Airbus" into its gross volume of activity. But paradoxically, the transparency of the GIE does not facilitate the transparency of these accounts, one of the major areas of dispute with the United States. Obviously, if the Airbus accounts were to be clarified, it would unavoidably lead to the spreading on the table of the records—and therefore the strategies—of all the partners involved.

In this particularity lies an important limit of the Airbus organisation: in the beginning, a limited objective pooling together part of the resources of several organisations pursuing different objectives (and competitors), the GIE constituted at the same time both an organisation endowed with an autonomous strategy and a key element in the strategies of its member-organisations. As an autonomous body, it certainly would be desirable for Airbus Industrie to keep its own independent accounts. Yet Airbus really has no meaning except as an

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element of the overall industrial, economic and financial strategies of the partners, and this explains why its balance sheets are shuffled in with those of the constructors. In other words, Airbus will probably continue to live for a long time with this ambiguity inherent in the very structure of its organisation.

The members of the GIE are Aérospatiale (France) with 37.9 per cent stock, Deutsche Airbus (Germany) also with 37.9 per cent, British Aerospace (Great Britain) with 20 per cent and CASA (Spain) with 4.2 per cent. Deutsche Airbus was created at the beginning of the programme in order to group together participants from among the various German manufacturers. Today, following several reorganisations that have affected the German aerospace industry, the sum-total of its parts are under Messerschmitt-Bölkow-Blohm (MBB), in turn recently integrated into the heart of Daimler-Benz.

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These partner-stockholders, however, are also subcontractors of Airbus Industrie as far as study and manufacturing are concerned, since their responsibility consists in the study, manufacturing and delivery of aircraft under the auspices of the GIE, which receives the orders and effects the billing and delivery. Now the complexity and subtlety of the process of internal decision in the Airbus system begin to take on a real shape. As stockholders, the members are supposed to have the last word. But as subcontractors, they must abide by the decisions of Airbus Industrie which is the sole actor capable of having a comprehensive view of the programme. Even more significant is the fact that the members are permanently in competition with one another to gain acceptance of this or that technological choice or one or the other industrial orientation that will put them in a strong position within the interior of the system.

For a long time Aérospatiale played this power game successfully, whereas today the ambitions of the other members are much more evident. In any case, it is obvious that this rivalry gives formidable power to the GIE, if not of decision at least of influence on decisions. Naturally, the other side of the coin is that each member of the executive board of Airbus Industrie is left in an uncomfortable position, accused by the company of origin of betraying national interests and suspected by the other members of favouring them. Yet since these suspicions apply to all, they tend to cancel each other out, to the benefit, once again, of the GIE's autonomy of decision. Moreover, the fact that commercial expertise is exclusive to the GIE only reinforces its power of negotiation, for only the GIE can use the knowledge of the market and of client specifications to its own advantage. It explains why the GIE directors stress their autonomy of decision when it comes to external relations. In consequence Airbus Industrie in its very essence is an organisation of paradoxes: not only is the distribution of power networks within indecipherable (as is more or less the case in the whole organisation) if one looks at the formal structure, but also the power relationships flow in a direction inverse to what the formal structure would indicate.

In order to complete this description of the Airbus system, there remains to be seen how the members of the GIE settle among themselves the division of the manufacturing workload. Structurally speaking, the volume of tasks performed by each member should be nearly proportional to its share in the GIE, even though variations appear according to the programme. But if too substantial, these variations inevitably will introduce serious disturbances within the system. Transactions occurring within the consortium are conducted in dollars: each partner "sells" to Airbus its portion of the work valued in dollars according to a price fixed at the moment of distribution of the various tasks. Immediately the advantages and inconveniences of such a system are clear. The principal advantage is the introduction of a stable mechanism of distribution in the system allowing a place for all. However, it also causes unruly effects. Each constructor must "rough it" with the internal sale price fixed at the beginning. If it cannot succeed in holding down costs or if the dollar falls, it alone will have to face the consequences since its production costs are paid in its national currency. Inversely, if the costs are inferior, the constructor benefits from the difference.

The significance is that each constructor has an interest in maximising its internal price of sale to the detriment of the other partners and of the entire Airbus structure, turning it into a zero-sum game since the overall sale price is

fixed by the market. Understandably then, from the point of view of the Airbus system as a whole, it would be desirable to reconsider at least partially the principle of the *juste retour* in order to have the partners compete with one another, and even with firms outside of the system. Yet this clearly would be against the interests of the GIE partners, that is to say the proprietors of Airbus themselves. The mode of distribution has led in the end to genuine *specialisation* (British Aerospace, the wings, MBB, the fuselage; CASA, the horizontal flaps; and Aérospatiale, the final assembly), which evidently only reinforces the capacity of expertise on the part of the GIE.

Working in the dark

Nevertheless this description of the Airbus system is not adequate in order to understand the logic in the workings of the decision process that leads, for example, to the introduction of a new model. As the history of Airbus shows, such an undertaking requires an awareness of the segmented decision process of several relatively autonomous sequences, each of which develops according to its very own logic. Schematically, three fundamental decision procedures can be identified.

In the first place is the commercial procedure, by which customer contacts are made in order to define the product needed. Airbus thereby obtains from the airline companies a certain amount of purchase agreements, and these testify to the clients' interest for the new model. This procedure is structured around the market parameter in its purest form. The image of the system of actors it presents is one where the commercial officers (in other words, the GIE Airbus Industrie) occupy a central position precisely because it is the commercial function that is at the core of this parameter, and because the GIE has a monopoly in client relations. In this scheme, government intervention is of lesser significance and the role of the various manufacturers is a function of the needs of the clientele. The process of decision is presided over by Airbus Industrie, which attempts to integrate the different rationales present.

Second is the political procedure, concerning the process by which the various governments decide to finance the new programme and agree on the amount of support and mode of reimbursement. The structure follows a parameter of authority: the actors ordered according to their functions in the decision-making process, in particular those functions consisting in the control over the use of public funds. Central in this system of decision are the respective

national administrations, whose role it is to verify that the proposals of the contractors are coherent with governmental objectives and constraints. The stress here is placed on the specific task of reaching an agreement among all of the states involved. Commercial requirements enter into the procedure as specific constraints.

Finally, the industrial procedure decides the characteristics of the aircraft, the division of the tasks of study and manufacturing, as well as the choice of subcontractors and suppliers. It is centred on technical parameter. The system of actors revolves around the one central, manufacturing function, consisting of the design and construction of a "good aircraft" that lives up to the prescribed performance. Obviously safety is a key concept in this code, which depends on the know-how of the engineer.

In theory, if the decision process were to unroll according to a perfectly rational scheme, then the three procedures would proceed in succession, one enclosing the other. Once a show of interest on the part of the clientele were evident, the financing would be arranged and then the decision to develop the aircraft would be made. But in reality, things are very different from this scheme of abstract rationality because the three procedures do not proceed successively but in parallel. Each one represents a specific configuration of the system of actors following its own parameter which produces a particular hierarchy of the norms structuring the decision. While more or less the same actors are involved in the three procedures, the image of their positions and of their relations changes depending on the point of view of the observer, and each point of view provides a different key to the analysis of their power relationships. In consequence, a certain type of actor (governmental and administrative, industrial, GIE) dominates each decision sequence, and weighs on the decision in function of its specific norms and criteria, each time forming both a particular expertise and normative system. The criteria for decision employed each time are different. The whole problem consists therefore in converging at a given moment these three realms of decision. Matters are made ever more difficult by the three sequences unrolling in parallel.

Under these conditions, how can the relative effectiveness—increasingly significant the further the programme advances—of the Airbus system be explained? It is first of all due to the fairly autonomous spheres of decision which allow each procedure to follow its own rhythm in function of its specific criteria of decision without acting as a parasite on the other procedures of

decision. In this way a delay in the political decision has no immediate impact on the industrial or commercial decisions—up to a certain extent, of course. This phenomenon was quite apparent on the occasion of the launching of the A320: after 1982 when the political procedure seemed to have been totally disrupted (most notably because of German hostility), the commercial procedure more or less pursued its usual course, with the aircraft being presented to several prospective client companies and its technical definition evolving, as otherwise had been the case, according to client feed-back.

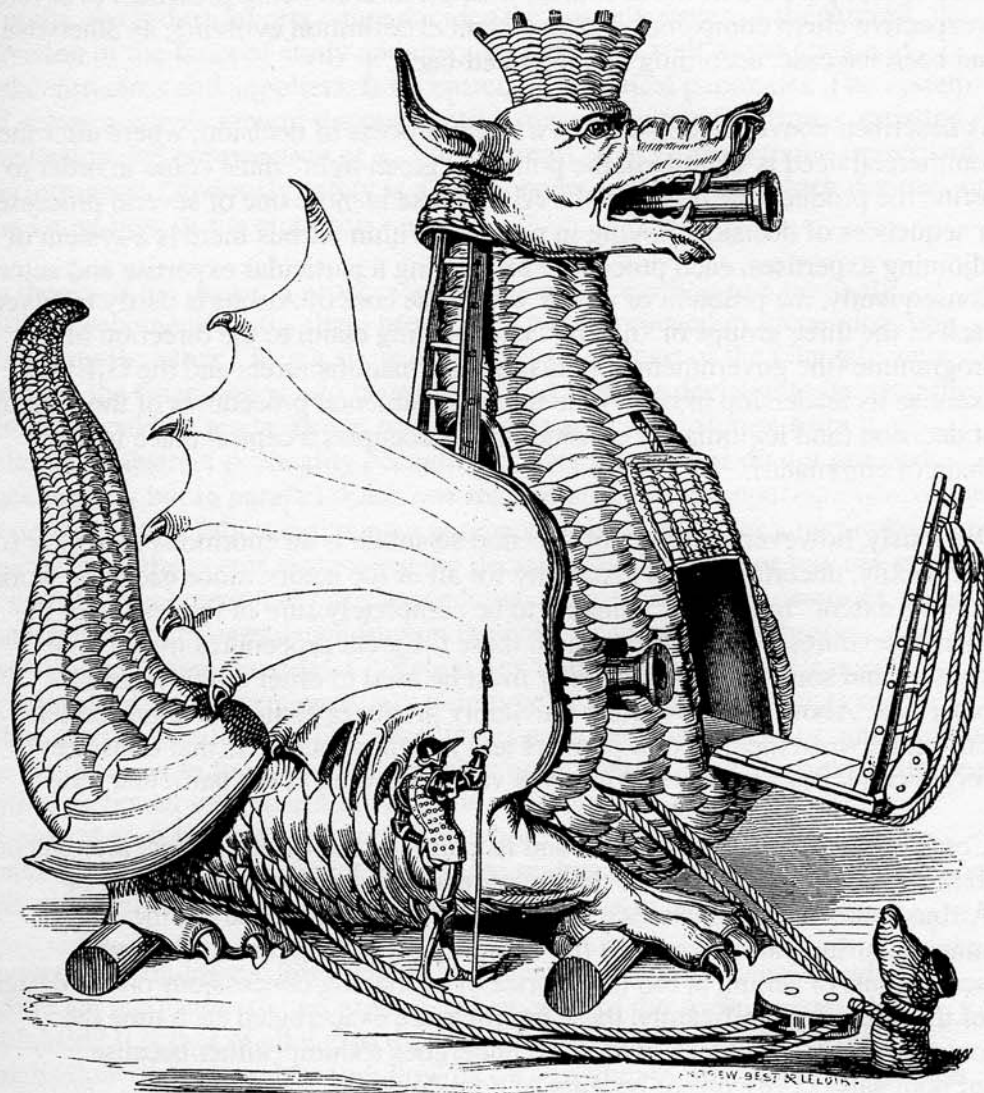
As described above then, instead of a linear process of decision, where after the commercial need is identified, the political “green light” must come in order to define the product, the image in the Airbus case is more one of several processes or sequences of decision moving in parallel. Within Airbus there is a system of adjoining expertises, each procedure privileging a particular expertise and actor. Consequently, the problem of power within the core of Airbus is partly resolved: each of the three groups of “macro” actors laying claim to the direction of the programme (the government administrations, manufacturers and the GIE) can exercise its leadership in one of the three fundamental procedures of the system of decision (and legitimately consider that it occupies a central place in the chain of command).

Obviously, however, a system of decision so subtle is an enormous generator of complexity, uncertainty and instability for all of the actors, since each one works to some extent “in the dark”, unable to be completely sure of the results of the other procedures. At a given moment these different procedures must come together and some form of hierarchy must be used to order the different expertises. Above all, the system inevitably produces endless and substantial tension between the different partners and it is these conflicts that transpire periodically. Protagonists and motives vary according to the particular case.

Conflicts occur between the GIE and its partners: the latter in effect are reluctant to accept the subordination of their commercial expertise to the benefit of Airbus Industrie. It translates into veritable revolts on the part of the manufacturing partners against the organisation linking them, often with accusations of selling at too low a price or of making concessions on the design of the aircraft. Significantly, these conflicts are exacerbated each time the commercial performance of the GIE undergoes a slump, either because of poor sales (1981-84) or because of a fallen dollar, which reduces the profits of the constructors.

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In addition, there are the conflicts occurring among the manufacturing partners themselves, since by definition they are in competition for the advantages to be gained from of Airbus, each one having interest in billing its services as costly as possible. Once again, the consequences of the engagements of the various partners throughout Airbus' history resurface. Uncontestably Aérospatiale



Monster Bird, XV Century

benefited from its privileged role at the beginning of Airbus due to the British retreat and the original weakness of the German industry. This situation frequently allowed it the appearance of being the driving force behind Airbus, especially since support by the French government has never been in doubt. British Aerospace, on the other hand, suffered the consequences of British hesitations up to 1978, for until the recent nomination of an English financial director the positions of high responsibility were monopolised by German and French administrators. MBB has been handicapped by the delayed rise to power of a German aeronautics industry and would very much like to re-negotiate its specialisation in the construction of the fuselage.

These conflicts can be characterised by their complexity, as each actor enters into a game of alliance and opposition with the others. Accordingly, at the time of the A320's launching, Germans opposed French over the opportunism in the launching of a 150-seater, the former suspecting the latter of simply wanting to find an outlet for the French-American CFM-56 engine. The British, instead, favoured introduction of the model on the condition that the division of the construction workload be reviewed in order to relocate the final assemblage in the UK, something which understandably irritated the Germans. This same kind of configuration can be found today: whereas the Germans and British together are pushing for the privatisation of Airbus, British, Spanish and French find themselves on the same side in refusing the German request to transfer the final assemblage.

It should be recognised that very often the principal effect of these intertwining conflicts is to expand the GIE's capacity to influence the system, for Airbus Industrie frequently acts as mediator between the antagonistic strategies. What remains to be seen is how in recent years the evolution of the economic and ideological context has slightly altered the rules of the game.

Success from below

How has the context changed? The first change concerns Airbus' position in the market. With an almost complete line covering the range from 140 to 350-seat aircraft, the return to the market has now been achieved. At this point the objective of a 30 per cent market share is accessible by the European constructor, by now recognised as a major competitor (something its penetration of the North American airline companies reflects). Debate between the different partners has moved on: it is no longer a question (and this will be the case for a

long time) of determining which aircraft to introduce but rather of how to manage the delays in delivery (taking into account the present explosion in orders), how to improve service after sales and above all, how to make some profit. But beyond the transformations in the structure of the world market, one should stress an undoubtedly more fundamental evolution. Relations between the governments and manufacturers have changed. Ever since the mid-1970s—in fact, ever since the introduction of the A310, the decisive moment of the turn about—there has been a progressive disintegration in the relations between the state and the aeronautics sector, formerly based on the logic of the arsenal.

In France there was the matter of the Concorde, the failed attempts at American partnership and the abandoning of Dassault's civil aerospace ambitions. Without completely renouncing tutelage of the aeronautics sector, the Ministry of Defence began to disengage itself from the system of decision with regard to civil programmes. Symmetrically, the Ministry of Transportation saw its own role expanded and its instrument of control restructured with the creation of the *Direction des Programmes Aéronautiques Civils*.

In Great Britain, after the double trauma of the Concorde and of Rolls-Royce's bankruptcy, it was clear that the commercial dimension of civil aviation programmes had to be strengthened. Starting in 1971⁷ the Ministry of Technology was relieved of responsibility. Elaboration of aeronautics policy was conferred upon the Department of Trade and Industry (DTI). This reform marked the end in Great Britain of specific treatment for aeronautics within the core of the administration. Finally, the Conservative victory in 1979 sounded the victory of liberal ideas and led to the privatisation of British Aerospace, British Airways and Rolls-Royce.

In Germany, starting in the mid-1970s the German government began to show greater and greater reticence in financing its part of the Airbus programme. Specifically, Bonn formulated ever stricter demands concerning the commercial credibility of projects targeted by the European consortium. As in Great Britain, the shift towards market logic translated into the difficult privatisation of MBB through its acquisition by Daimler-Benz.

The end of the 1970s marked the preeminence of the market norm within the core of European aeronautics policies. Airbus Industrie's affirmation on the commercial map completely altered the intellectual climate in which decisions were made. Of course this does not mean that conflicts between national



Learning to fly

interests disappeared, nor that there was no longer any competition for the exercise of industrial leadership in the programme. The decisive change was a change in language. From this point on and to an increasing extent, the confrontations and conflicts grew around the logic of Airbus' commercial success.

The fundamental change consisted in the passage from a technical approach, dominant until the 1970s and with nuances changing from country to country, to a commercial approach that became the common reference point of this era. Not surprisingly each administration reacted to this change in parameter according to its past tradition and specific habits. However, the best indicator of this rapprochement which extends beyond industrial and government approaches is without any doubt the stunning convergence in attitudes of the politicians and bureaucracies of the member countries with regard to Airbus reform. The reform can be explained by three principles. First, the pursuit of the Airbus programme has meaning solely in function of its commercial success. State support should not be accorded unless based on strict studies demonstrating the project's capacity to show a profit within a certain period of time. Second, Airbus is too costly for the European states. Previously justified in the return-to-the-market phase, this over-spending must be reduced, even abolished. Third, as a result, the Airbus programme as quickly as possible must attain financial autonomy.

All totalled, the history of Airbus unexpectedly sheds light on current debate over neo-liberalism. Actually, contrary to the very "ideological" image often given to the emergence of neo-liberal thought in the West, it seems that in this case, the change in parameter came more "from below": by way of mediation on the part of Airbus Industrie which transformed the normative structure of public policies. Certainly the political and ideological context had their own importance. Yet it is clear that the emergence of a new parameter was neither directly nor exclusively tied to the arrival to power of political leaders professing a neo-liberal ideology.

From this perspective, the reform that came into effect April 1, 1989, witnessed at the same time both problems in Airbus' management as described earlier as well as a change in the ideological climate. Even if Airbus Industrie's legal structure remained unchanged, the functioning of its decision process was profoundly modified. The Supervisory Board was reduced to five members. Presided over by Dr. Hans Friedrichs, it is composed of the presidents of the four partner companies. The Supervisory Board must take the final strategic decisions concerning current and future Airbus programmes. The president of Airbus is officially responsible for coordinating the essentially commercial requirements of Airbus Industrie with the economic and industrial requirements of the four member companies. The director general was replaced by a chief operating officer who oversees the everyday activities of the consortium.

At the same time, the function of financial director was created and conferred upon the Briton Robert Smith. The latter's task is to order the financial side in such a way as to insure a totally open (visible) accounting system for the overall Airbus programme in its entirety. In order to do so, he has access to information concerning the production costs of the member companies in Airbus. Finally, an Executive Board of seven members was formed. It is to be the principal instrument of control for the partners over the consortium. It is presided over by the president of Airbus and composed of the directors of the aircraft divisions of the four partner companies plus the chief operating officer and the financial director of Airbus Industrie.

The reform conforms exactly to the recommendations of a study published the preceding year. It has many components, insofar as it constitutes a response to most of the management problems that were confronting Airbus. The powers of Airbus Industrie were considerably reduced: there was the expansion of the president of Airbus' role, who as chairman of the Executive Board now has the official right to deal with industrial matters, as well as the creation of the post of financial director with the power of access to the member company books.

Consequently, the partners see their possibilities of control over the GIE strengthened as well: the Supervisory Board, reduced to five members, should function more effectively. At the same time, the presence of the partners in day-to-day management was made official by the creation of the Executive Board.

On another level, there was the attempt to appease American critics (more and more audible in Europe) with the removal of the transparent accounts system by creating the post of financial director with the duty of bringing about some sort of clarity in this area.

The final advantage of this operation is the chance to adjust the equilibrium between the different participating nations by naming for the first time a representative of Great Britain to a post of major responsibility.

The conditions surrounding the recent launching of the A321 (an extended version of the A320) confirmed these tendencies. First of all there is the growing autonomy of Airbus Industrie, which for the first time sought to involve the partners in genuine competition over the markets for required parts. There has been a retreat on the part of the administrations as they are no longer

solicited for financing, the necessary funds being gathered from the financial market by the intermediary GIE. Finally, the preeminence of an industrial and commercial approach in lieu of a political approach can be observed in the refusal to take political action—up to the present—on the matter of a possible transfer of the final assemblage.

What remains to be said about this reform is that if indeed it constitutes a coherent answer to the difficulties born of Airbus' particular status, it will not make all problems vanish like magic. Its success will depend on the spirit with which the different protagonists—who, after all, have every interest in Airbus' good health—will apply it. Beyond national questions of susceptibility, three fundamental principles of action result from the study of the history and functioning of Airbus. The difficulty arises in that they represent contradictory requirements.

The first principle is the necessity of reinforcing the autonomy of the GIE Airbus Industrie. The entire history of Airbus shows that in effect, the success of the programme for the most part can be explained by the capacity of Airbus Industrie to gain acceptance by the ensemble of the system's actors of a certain logic of the enterprise and of a certain vision of the market. In harder times, this particular form of entrepreneurial culture allowed the directors of Airbus to confront the American giants and to overcome enormous difficulties in its attempt to return to a market that had excluded Europeans. The problem is whether this particular culture will be able to integrate into a management style more concerned with industrial and financial realities.

The second necessity concerns the preservation of the fundamental interests of the partners. It would be very dangerous if there were a relative disengagement by the partners who in order to regain influence they consider lost in the Airbus framework would be tempted to add parallel, and even competing, programmes. From this point of view the current poor state of the manufacturers, not merely financial, must be resolved. This could also come to pass by a better distribution of the symbolic benefits tied to the Airbus enterprise.

The third principle concerns the role of the member states of the Airbus system. What must be continued is the recently observed tendency to limit the role of specific political factors in the functioning of Airbus. Just as importantly, however, this disengagement (which will have to proceed in step

with the end of state aid) should not translate into a decrease in political support for Airbus in a context of expanded international competition. Airbus is one of the domains where, thanks to the stubbornness of a small group of persons who refused to admit defeat when everything seemed lost, Europe today has a splendid card to play. It must not be spoiled.

References

- 1 - John Newhouse, *The Sporty Game*, New York: Alfred Knopf, 1985. And for general reference, see Marc Giget, *Evolution de la position relative des industries aéronautiques civiles de l'Europe et des Etats-Unis sur le marché mondial 1955-1985*, Paris: SEST, 1981.
- 2 - Walter J. Boyne and Donald S. Lopez, *The Jet Age: Forty Years of Jet Aviation*, Washington, Smithsonian Institution Press, 1979.
- 3 - Bill Gunston, *Airbus*, London: Osprey, 1988.
- 4 - Lew Bogdan, *L'épopée du ciel clair*, Paris: Hachette, 1988.
- 5 - See the notion of *référentiel*, Bruno Jobert and Pierre Muller, *L'Etat en Action*, Paris: PUF, 1987.
- 6 - Raymond-Alain Thiétard and Christian Koenig, *Programmes aérospatiaux, la stratégie de l'organisation mutuelle*, "Revue Française de Gestion", March-April-May, 1987.
- 7 - Keith Hayward, *Government and British Civil Aerospace*, Manchester: Manchester University Press, 1983.