

[plane truth]

Boeing, Boeing ... Gone

How an American titan clipped its own wings

By Eamonn Fingleton

ONE EVENING A GENERATION AGO, several up-and-coming aerospace executives gathered to commune with the Boeing aircraft company's chief executive, Thornton Wilson. The discussion turned to Boeing's vaunted expertise in making aircraft wings. Wilson evidently came across as boastful—so much so that a young General Electric executive named Harry Stonecipher suggested that Boeing was arrogant. “And rightly so,” came Wilson's serene reply.

The exchange, which was recorded in *Fortune* magazine a few years ago, is worth recalling partly for what has happened to Stonecipher in the meantime—and partly for what has happened to Boeing.

In a remarkable twist of fate, Stonecipher now fills Wilson's old job at Boeing. But whereas the Boeing that Wilson led in the 1970s utterly dominated the skies, today's Boeing is another matter. Its once masterful technological leadership is gone and, in an orgy of indiscriminate outsourcing, Stonecipher is presiding over the destruction of what remains of Boeing's erstwhile manufacturing greatness—not least the world-beating wing business that was the apple of Wilson's eye.

As the American press has latterly come to realize, Boeing is an embattled company. But while the media has focused on a defense contracting scan-

dal that has recently engulfed the company, this is a tempest in a teacup compared to the real story: the unpublicized tragedy of Boeing's declining competitiveness. After decades of shortsighted management, Boeing has become so hollowed out that the impact is clearly visible in America's rapidly worsening trade deficits. Indeed, respected experts fear Boeing is already so enfeebled that it may be forced to exit its core business in commercial airliners within a decade. This in turn would undermine its defense business, with distinctly ominous implications for America's long-term security. Just how important that business is can be judged from the fact that, after decades of industry consolidation, the Boeing group now subsumes most of the contractors that executed the Apollo moon project.

Part of the problem is that Airbus, a puny also-ran in Wilson's time, has recently leapfrogged to global leadership in airliner sales. But a larger part is a sea change in Boeing's concept of itself. In a philosophical metamorphosis whose significance has been lost on the American press, Boeing is now pleased to call itself a “systems integrator.” An unfortunate echo of the New Economy bubble, this self-description effectively reduces America's most Olympian manufacturer to the level of a thousand catch-as-catch-can soft-

ware consultancies. Boeing's top management has presided over one of the most lamentable downsizing programs in American corporate history. Not only has the Boeing group cut 77,000 jobs in the last seven years, but it has euthanized its research and development department—all this while spending \$10 billion to “enhance shareholder value” in a buy-back of one-sixth of its outstanding stock.

The key to the new Boeing is a Faustian bargain with Japan. In a rerun of earlier American industrial implosions, Boeing has come to rely more and more on Japanese contractors for its most advanced engineering and manufacturing. Heavily subsidized by the Tokyo government, Boeing's Japanese partners are delighted to lowball their contract prices and spend heavily on the sort of advanced research and development that in happier times Boeing would have eagerly—indeed jealously—reserved for itself.

All this powerfully props up Boeing's short-term profits. But what's in it for Japan? Plenty. Not only have Boeing's orders long kept Japanese factories nicely ticking, but recently, in a stunning move that has hitherto gone virtually unnoticed in the United States, Tokyo has prevailed on Boeing to transfer large quantities of previously secret American aerospace know-how to a government-

funded Japanese aerospace consortium. Adding salt to the American economy's wounds is that much of this expertise was built with help from U.S. taxpayers.

In effect, Boeing is burning the family heirlooms to keep the house warm. First into the fire went some throwaway items from the attic, quickly followed by the Empire chaise and the Chippendale chairs. Now if labor union officials are to be believed, Boeing is torching the Vermeers and Canalettos, despite the fact that many of these are held in trust for an absent relative—an agreeable bagholder by the name of Uncle Sam.

Boeing's deeply embittered engineers prefer an even more controversial—if distinctly vulgar—metaphor. Outraged at the prone position they have been asked to adopt towards their information-gathering Japanese counterparts, they have been quoted by author Karl Sabbagh as referring to Boeing's technology-transfer deal with Japan as the “open kimono” policy. The erstwhile titan of the American aerospace industry is, of course, the one in the kimono.

Just how far Boeing has fallen will be extensively documented later this year when the aerospace experts David Pritchard and Alan MacPherson publish a scholarly analysis of Boeing's “systems integration” policy. Their paper, which is being reviewed for publication by the UK-based journal *R&D Management*, is likely to cause a firestorm in Washington. Here, based on an advance look at the draft, are some of their findings:

- More of the 7E7, Boeing's major new plane due for launch in 2008, will probably be built in Japan than in the United States.
- In total, nearly 70 percent of the 7E7's manufacturing content will come from foreign sources. This compares with foreign content of just 2 percent in the Boeing 727, which was launched in the 1960s.

- The Boeing 777—the most advanced Boeing so far launched—contains about 30 percent foreign content. There is no domestic production for the plane's center wing box or its aft and forward fuselage sections.

- Boeing's product line is rapidly aging and its backlogs are low—a signal that further precipitous drops in output are ahead. Production on four of its six commercial product lines (the 747, the 757, the 767, and the 717) is likely to cease within the next few years. This would leave only the 737 and 777 in production until the 7E7 comes on line.

- Boeing spent a mere 3.5 percent of its revenues on research and development in 2003. By comparison, Airbus spent 9.5 percent. Boeing allocated only 1 percent of its 2003 revenues to capital investment, compared to Airbus's 9.1 percent.

- Boeing's technology transfers to Japan include vital new-materials know-how acquired in long-running joint research programs with NASA. The materials concerned are composites used in both wings and fuselage.

- Boeing has become so hollowed out that its sales should no longer qualify for lucrative federal export incentives such as Ex-Im Bank loans and foreign sales corporation tax status.

As Pritchard and MacPherson point out, a particularly telling indicator of Boeing's decline is that the Japanese will make most of the wings for the 7E7. Not only that, Boeing seems set to transfer wing-making know-how to a Japanese-government-sponsored consortium.

In outsourcing the 7E7's wings, Boeing is crossing an economic Rubicon. Apart from the Boeing 717, which was not a true-born Boeing, no Boeing plane has ever flown on foreign wings.

(The 717 is a souped-up DC9, and its presence in the Boeing catalog reflects Boeing's takeover of McDonnell Douglas in 1997. McDonnell Douglas, it should be added, pioneered many of the eat-the-seed-corn tactics Boeing has now embraced.)

In the past, Boeing always maintained a tight grip on the wing-making process. Whereas in the 1980s and 1990s it let Japan make an increasing array of wing subcomponents, these were merely assorted “widgets” churned out to Boeing designs. Now a Japanese aerospace consortium will have design control and will make its own decisions about which contractors and subcontractors make the myriad widgets. If past is prologue, Boeing will never again regain control of wing-making. For one thing, the Japanese suppliers will have the advantage henceforth of more modern tools and a generally more advanced understanding of the technology.

It is hard to exaggerate the significance of all this. As was obvious to Thornton Wilson all those years ago, Boeing's erstwhile global dominance in jet planes was founded on its wing-making secrets. Indeed, when Japanese contractors began to take on an increasingly important role in making aircraft components in the 1980s, Boeing instituted elaborate procedures to control the movements of visiting Japanese engineers at its offices and factories. As Louis Uchitelle of the *New York Times* recorded in 1989, Boeing's prime concern was to hide its wing-making secrets from industrial spies.

In truth, the challenges entailed in designing and making wings for large passenger jets are far more daunting than lay observers might imagine. The challenge is to make the final design both strong and light, a delicate balancing act that is not made any easier by a further requirement: everything must be machined to tolerances measured in

thousandths of an inch. The slightest dimensional error can produce disproportionate aeronautical consequences. Just how disproportionate can be gauged from a well-known law of aeronautics: air resistance increases with the square of an object's speed. Thus the resistance encountered at 500 miles per hour is fully 100 times greater than at 50 miles per hour.

It is therefore hardly overstating things to say that the wings are to a plane what the sound box is to a violin—its defining feature. Just as a violin is not a Stradivarius without a sound box made in Cremona by Antonio Stradivari, a plane can hardly be considered a Boeing without wings made in the United States by the Boeing company.

Perhaps the best indicator of the challenges involved in making wings for large passenger jets is that, apart from the United States, only one nation, Britain, boasts a serious record in the field. British Aerospace's wing-making capability is one of Britain's few remaining world-class manufacturing businesses. Its technology, in turn, has been a key driver of the success of Airbus, which is backed by the governments of France, Germany, Spain, and, of course, Britain.

Wing-making is one of the most advanced sub-sectors of one of the world's most advanced manufacturing industries. But since the United States has been in general retreat from advanced manufacturing for three decades, why should we care what happens to what remains of America's manufacturing heritage? Manufacturing matters for three key reasons:

1. Manufacturing jobs generally provide better wages than equivalent service jobs because worker productivity is generally leveraged by more capital and more proprietary know-how.

2. Manufacturing provides an abundance of jobs for people of ordinary ability as opposed to the Ph.D. types who get many of the jobs at, say, Microsoft. It thus closely matches the job-creation needs of society.

3. Manufacturing companies are big exporters. In my book, *In Praise of Hard Industries*, I calculated that per unit of output American manufacturing businesses export about eleven times as much as service businesses.

Few manufacturing businesses score better on these three criteria than the airliner industry. Even if it were not so closely intertwined with America's national defense, the industry would still be of pivotal geopolitical importance. The point is that it has long been America's biggest export earner. Unfortunately, America's imports of aircraft and aircraft parts now equal 45 percent of its exports, up from just 5 percent in the 1960s.

Boeing's resort to outsourcing explains much of the increase—and it comes at a time when Americans are rediscovering the importance of trade. For a while in the 1990s, it became fashionable to say that “the trade deficits don't matter” and that the U.S. could with impunity allow its export industries to die on the vine, but this is now becoming widely recognized as a self-serving canard of the foreign-trade lobby. Certainly the Bush administration can hardly feel secure in the knowledge that the only thing standing between the dollar and total collapse is a massive support operation by the Japanese and Chinese.

As Jack Davis, a prominent advocate of an American manufacturing revival, points out, the ramifications of Boeing's decline extend beyond aerospace. “We're not just losing the airliner industry, but all the scientific, engineering and technological know-how that goes with it,” says Davis. “We are talking here about

advanced composites, glass, aluminum, titanium materials technology, the castings and foundry industries, precision tooling and machining, not to mention avionics. And since these technologies are used in jet fighters, bombers, tankers and space vehicles, we're hitting the defense industry as well as the commercial aerospace industry.”

The most devastating aspect of Boeing's implosion is what it says about America's overall economic strategy. A principal element of that strategy has been free trade. And for proponents of free trade, Boeing has long been Exhibit A—supposedly unimpeachable evidence that advanced American manufacturers have little to fear and much to gain from the globalists' New World Order.

When some of us in the 1980s and 1990s warned that “one-way free trade” was gutting American manufacturing, we were dismissed as Chicken Littles. American manufacturing was not declining, we were told, but rather triumphantly reinventing itself. Free trade might sweep away inefficient, low-tech manufacturers—“buggy-whip makers” in our opponents' favored terminology—but America was going from strength to strength in more advanced industries such as aerospace. And true enough, all through the 1980s when the alleged buggy-whip makers—companies like Zenith, Xerox, and Chrysler—fell like ninepins before foreign competition, Boeing seemed like a gratifying exception—to anyone who did not look too closely. As late as 1990, *Newsweek* described concern about Japan's targeting of various aerospace technologies as “overwrought” and opined that America enjoyed “a lead over Japan that would be difficult to squander.”

Of course, as far as Boeing is concerned there is no problem. It paints its downsizing not only as inevitable but as a good thing. Unfortunately its excuses are, for the most part, transparent nonsense.

Start with the notion that it is now a “systems integrator.” To those who can’t see through business jargon, a “systems integrator” may sound more impressive than a mere manufacturer. In reality, it is a cop-out, as a glance at some of the industry’s other systems integrators makes clear. Embraer of Brazil is a systems integrator. So is Aviation Industries of China. Like the new Boeing, these companies lack the advanced know-how and machinery to make key components in a modern first-world plane. Instead they must import such components from more advanced manufacturers in Japan and Europe.

Boeing’s outsourcing is often excused as merely reflecting a desire to have routine, low-skilled work done cheaply in low-wage countries. This might make sense if Boeing were moving jobs mainly to India or Bangladesh. In reality, an estimated 50 percent of Boeing’s foreign-sourced work is done in Japan. While in the 1970s and 1980s companies like Zenith and Xerox had some excuse for going to Japan, any shift of American work to Japan now seems like an admission of managerial failure. Measured against the dollar, the yen today stands at more than two-and-a-half times its level of 1985. Once a cheap-labor country, Japan today ranks virtually at the top of the world wages table with wage rates between 10 and 30 percent higher than in the United States. Boeing’s decision to buy more and more from Japan is therefore the economic equivalent of water running uphill.

The plot thickens when you realize that foreign outsourcing has not always been a factor in the American aircraft industry. In fact, in the 1950s, the heyday of America’s domination of the skies, American planes were made virtually in their entirety with American labor, despite the fact that American wages were then six times those in Japan and four times those in Germany.

Boeing’s first experiment with foreign contracting came in the 1970s when, in a *quid pro quo* for plane purchases by a government-owned Japanese airline, Boeing undertook to buy some Japanese-made components. Similar side deals—known as “offsets”—were soon concluded with other industrially ambitious nations.

Although the early offset deals were small, they proved to be the thin end of a rather thick wedge. By the 1980s, the Japanese alone were making 15 percent of the Boeing 767, and that is modest compared to the plans for the 7E7. Japanese manufacturers are officially expected to make 35 percent of the plane, but unofficial estimates put their

1970s, when Boeing’s once flourishing roster of American suppliers began to lose orders. One by one such component makers as Avco, Convair, Douglas, Fairchild, Grumman, Lockheed Martin, Northrop, and Rockwell have since been forced to exit the passenger jet business or have even had to shut down entirely. The roster was down to just two as of 2003, compared to ten in the 1970s.

Boeing argues that large offsets have often been essential in capturing lucrative export orders over the years. But this is contradicted by Airbus’s record. While consistently stonewalling the more damaging requests for offsets, Airbus has nonetheless thrived. As Pritchard and MacPherson point out,

IN THE 1950S AMERICAN PLANES WERE MADE VIRTUALLY IN THEIR ENTIRETY WITH AMERICAN LABOR, DESPITE THE FACT THAT U.S. WAGES WERE THEN SIX TIMES THOSE IN JAPAN AND FOUR TIMES THOSE IN GERMANY.

share far higher because in addition to delivering huge fully assembled sections, the Japanese will supply many of the subcomponents needed by Boeing’s American and Italian suppliers. An exact calculation is impossible because an undisclosed proportion of the work will be conducted abroad by Boeing itself (in Boeing-owned factories in Canada and Australia), but Pritchard and MacPherson are probably erring on the low side in suggesting that 70 percent of the new plane will be manufactured outside the United States. While the final assembly work will be done in Seattle, the choice of this location was a token gesture aimed at capturing state tax breaks and cannot cover up the fact that the most sophisticated passenger jet ever built will probably be more a Japanese product than an American one.

The earliest negative impact of the offset system was felt as far back as the

Airbus has generally sourced components for each new model initially from within Europe. Only at a later stage in the cycle does it contemplate sourcing from non-European suppliers. By that time, Airbus’s European suppliers will have moved on to more advanced work on newer Airbus models.

To be sure, in resisting offset requests, Airbus has enjoyed powerful support from European governments. Rather than countenance the transfer abroad of advanced manufacturing jobs, Airbus’s government backers have often dangled landing rights at key European airports. They have also used geopolitics to their advantage, particularly in the Middle East, where they capitalize on anti-American feeling.

As for Boeing, although it cannot copy Airbus’s tactics in detail, it has often wasted the considerable geopolitical leverage it enjoys. Take the Japanese

market, which happens to be the world's second largest. Boeing has rarely needed to give away jobs to secure orders from Japan. Quite the contrary, Japan has been more or less a captive market. After all, as the *Atlantic's* James Fallows has pointed out, U.S.-Japan trade imbalances have long been so large that Tokyo has felt obligated to find ways to boost its purchases of American goods. In the absence of compelling technical reasons to buy European, therefore, Japan's highly regulated airlines surely had little choice but to buy American. After all, by dint of scale economies, Boeing enjoyed a commercial edge over Airbus well into the 1990s. Certainly, while the transfer of jobs to secure orders has been merely lamentable, the transfer of advanced technology has been utterly inexcusable. Given that Boeing was safe from undercutting by Airbus, it could easily have resisted the more outrageous technology requests, particularly those from Japan.

What is undeniable is that Airbus's refusal to sacrifice jobs and technology has done little to hold it back. Airbus passed Boeing in deliveries of new passenger jets in 2003. Part of the story is an enormous advance by Airbus and part of it is a sales implosion at Boeing. With the help of subsidies from European governments, Airbus's deliveries of completed aircraft increased from fewer than 100 in 1990 to more than 300 in 2003. By comparison, Boeing's deliveries slumped from more than 520 planes in 1990 to fewer than 290 in 2003.

All this is a far cry from the 1980s, when the combined share of Boeing and McDonnell Douglas sometimes accounted for close to 90 percent of all orders, leaving a lilliputian Airbus with a few remaining crumbs. Perhaps the most telling indicator of the scale of Boeing's fall is that, at the time of Boeing's takeover of McDonnell Douglas in 1997, the two companies together accounted for 77 percent of all planes then in service.

Even before the decision to outsource the 7E7 wing work was announced, there had been hints that Boeing's top executives were rapidly tiring of the passenger-jet business. Certainly they have given every sign of preferring to develop service businesses, notably a new telecommunications subsidiary named Connexion by Boeing. Following in the footsteps of General Electric, General Motors, IBM, and other erstwhile American industrial icons that have dramatically downsized their manufacturing workforces in recent years, Boeing has also been developing a financial services subsidiary.

Top executives inevitably put a brave face on all this, professing to see the new services as high-growth add-ons to the main manufacturing business. Nonetheless, there are strong grounds for questioning the long-term wisdom of Boeing's passionate embrace of services. Experience elsewhere suggests that such diversification is a short-term solution that inevitably dissipates much managerial time that would be better invested in the main business.

A further straw in the wind is that Boeing has been increasingly emphasizing defense contracting. In 2003, for the first time in several decades, Boeing's defense division outsold its passenger-jet division. While rising defense sales provide some respite for what remains of Boeing's beleaguered manufacturing workforce, the economic subtext is hardly flattering. Just as patriotism is proverbially the last resort of scoundrels, defense contracting tends to be the last resort of corporate America's also-rans. The point is that defense contracting is not only generally sheltered from foreign competition, but it is often priced on an all-forgiving cost-plus basis. This is how a faltering McDonnell Douglas could continue as a major defense contractor long after its passenger-jet business had imploded.

The zest for innovation has largely disappeared at Boeing. This need not have happened. After all, when Airbus got its start in the late 1960s, American companies utterly dominated the world aerospace industry—and few American aerospace companies held more high cards than Boeing.

Capitalizing on a treasure trove of aeronautical secrets acquired from a defeated Germany at the end of World War II, Boeing had led the United States into the jet age. Thus it was that Boeing developed one of America's first jet-powered bombers, the B-47. Then in 1958 Boeing launched the world's first successful passenger jet, the Boeing 707. By the mid-1960s, Boeing had become the leading maker of passenger planes—from which position it proceeded to bet the company on the 747 jumbo. Launched in 1969, the 747 nearly bankrupted Boeing but went on to become a sensational commercial success. Still, the trauma of the 747's birth seems to have cast a permanent shadow over the company's previously entrepreneurial culture. The era of visionary gambles at Boeing was over. As of the early 1990s, Airbus's chief strategist, Adam Brown, was openly taunting Boeing for having become "reactive." Brown is hardly an unbiased source, but it is indisputable that Airbus has led the industry in several notable innovations over the last three decades.

The pattern started with Airbus's first plane, the A300. When it entered service in 1974, the A300 was the world's first twin-engine wide-body. The twin-engine format slashed airline operating costs compared to the three-engine and four-engine formats of earlier wide-body planes.

Airbus again stole a march on Boeing in 1988 when it introduced so-called fly-by-wire. Fly-by-wire is the industry term for computerized navigation controls, a concept pioneered in military aircraft in the early decades after World War II. It

was later installed on the Anglo-French Concorde and, despite Concorde's dismal commercial failure, the technical success of the Concorde navigation system encouraged Airbus to use it on the A320. Boeing did not follow until 1994, when it introduced a limited version of fly-by-wire on the 777.

Fly-by-wire is important partly because it is a major weight saver. Moreover, it facilitates "interoperability." This is the industry term for standardized controls installed across a family of aircraft—a pilot-friendly feature that enables airlines to save millions on training costs.

Boeing's woes over the years were compounded by its engineers' reluctance to move to computer-aided design. Again Airbus pioneered the concept and reaped early efficiency gains. One lasting consequence is that it was a French company, Dassault, that came to dominate the market for aircraft-design software. Even Boeing now buys software from Dassault.

If anything, Boeing has become even more cautious since it took over McDonnell Douglas, which had long been notorious for its failure to innovate—a trait that, as *Fortune* magazine has commented, allowed Boeing "to all but blow it out of the airliner business." Led by Harry Stonecipher, many of McDonnell Douglas's people have succeeded to top jobs at Boeing.

Boeing has been reluctant to develop new planes. Of four new models mooted in the last 15 years, it has killed three. Most notably, in the wake of the Sept. 11 attacks it shelved the so-called Sonic Cruiser, a glamorously positioned plane that would have cut the flight time from New York to London by nearly one third.

Even more significantly, in March 2001 Boeing cancelled longstanding plans for a superjumbo that was to have superseded the ageing 747. As a result, Airbus, which announced in 2000 that it

was going ahead with its own superjumbo, has a clear run at establishing a highly lucrative monopoly that looks certain to kill off the Boeing 747, for two decades Boeing's cash cow.

The Airbus superjumbo, to be known as the A380, will make aviation history as the world's first four-aisle plane. It will also be the first full double-decker passenger jet. Carrying 555 passengers in its launch version in 2006, it is expected in later models to carry as many as 840.

Responding via e-mail (the company declined to be interviewed), a Boeing spokesman made light of the problems. Boeing's research cuts, for instance, merely reflect a cyclical low, he said. The fact is, however, that research spending relative to total revenues is now far lower than at a similar cyclical low in the latter half of the 1980s (and it is running at less than half the rate of the mid-1990s). Even if spending increases as the 7E7 project goes forward, Boeing's share is likely to be quite small: the point is that much of the burden will be shouldered by foreign partners.

Boeing plays down the importance of know-how transfers to Japan and maintains that much U.S. taxpayer-funded research being transferred is already in the public domain. Stan Sorscher, an official of Boeing's main white-collar union, acknowledges that while there is some truth in this, Boeing's work with NASA has yielded much tacit knowledge that is not published. Such knowledge is often where the real national economic advantage is and its transfer represents a serious loss to the American national interest. Because Boeing no longer sees a future in making key parts of its planes, it no longer seems to put a high value on practical production know-how. By contrast, for the Japanese, focused as always on boosting their labor productivity in advanced manufacturing, such know-how is pure gold.

Boeing also plays down the importance of its wing deal with Japan. It would appear that Japan's participation will be less comprehensive than originally indicated in 2003. But if the Japanese wing builders are really now to play Robin to Boeing's Batman, it is puzzling that this has not been more widely publicized. As of late December the *Seattle Times's* well-informed aerospace correspondent Dominic Gates was still flatly stating that the 7E7's wings would be made in Japan.

It seems clear that nothing much has changed apart from the spin that Boeing wants to put on the deal. Certainly changing political realities dictate a different spin. After all, Boeing's room for maneuver is increasingly being constrained by the Pentagon scandal. Meanwhile, on the Japanese side, the fact that America's huge trade deficits are suddenly again on Washington's front burner will not have gone unnoticed.

That said, Boeing has a point in arguing that not all its problems are of its own making. What is important now is not so much allocating blame as reversing the company's power dive. While there is plenty of room for debate about detailed measures, it is clear that absent a changed mindset—both at the national level and at the company level—Boeing's fate is sealed.

Of course, Boeing's problems are part of a much larger syndrome of decline in American manufacturing. If the United States wants to retain control of its economic and political destiny, a whole litany of changes is necessary to reverse the globalist drift of American manufacturing policy. But at the end of the day, such changes are all moot if American policy makers do not change their fundamental mindset. Quite simply, *laissez faire* is not enough in an industry as concentrated and geopolitically significant as aerospace.

As for America's policy on aircraft trade, this seems doomed to failure. It consists after all of little more than beseeching the Europeans to stop subsidizing Airbus. In years gone by, when Airbus was much smaller and the United States enjoyed more influence, there might have been some hope of being heard. But that time has gone. Even if Boeing could claim that it is without sin in the matter of taking government largesse, it is unlikely the Europeans would listen to American pleas.

Under these circumstances, Washington needs to take a more radical approach. On the Left, many observers advocate a wholehearted industrial policy for the aircraft industry. But perhaps a better solution—and one certainly more in accord with America's capitalist tradition—is an idea put forward by economist Pat Choate. Choate, author of *Hot Property*, a forthcoming book on the theft of American intellectual property, suggests a "sphere-of-influence" approach similar to that which applied in the chemicals industry in the first half of the last century. Basically, the concept is to let Airbus have the run of the European market while Boeing would have North America. These spheres of influence would be defined by tariffs on both sides. In third-country markets, the two companies would be free to compete on level terms and this discipline would provide a strong incentive for efficiency.

Given the especially open nature of American democracy, many policy options are likely to be considered—and hotly debated. What everyone can agree on is that it is now past time for something that hitherto has been sorely absent: leadership. ■

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Pleading the Fourteenth

Congress already holds the power to define marriage.

By Austin Bramwell

DESPITE THEIR SUCCESS in the 2004 election, gay-marriage opponents can't seem to shake their sense of doom. Eleven states may have passed constitutional amendments defining marriage as between a man and a woman, but same-sex marriage still has an apparently ineluctable logic on its side. As homosexual activists continue to advance their cause in a sympathetic judiciary, more and more states will have gay marriage imposed on them. Gay marriage will then be imported into other states, so that eventually the Supreme Court—which for the past ten years has overturned or disregarded any doctrine standing in the way of the gay-rights movement—will have an opportunity to impose same-sex marriage on the entire country. Only a constitutional amendment, therefore, can stop gay marriage. At the same time, however, a constitutional amendment has no hope of passing. In the end, the logic of events makes gay marriage inevitable.

Hogwash. It isn't true that only a constitutional amendment can stop the courts from imposing gay marriage. On the contrary, Congress can stop the gay-marriage movement cold by passing a simple statute. That statute need say nothing more than "No State shall define marriage as anything other than between a man and a woman."

Surprising as it may at first seem, Congress derives the power to pass such a statute from the Fourteenth Amendment. The argument goes as follows: Section 5 of the Fourteenth Amendment gives Congress "the power to enforce,

by appropriate legislation, the provisions of this article." It is well-settled that the Fourteenth Amendment protects the fundamental right to marry. States may not violate this right by redefining marriage as something other than it really is. Therefore, Congress can pass a statute underscoring the correct definition of marriage.

Let's unpack that. First, the Fourteenth Amendment protects the right to marry. Although it does not mention this right explicitly, the Fourteenth Amendment does prohibit states from abridging "the privileges or immunities of citizens of the United States," depriving "any person of life, liberty, or property, without due process of law," or denying "to any person within its jurisdiction the equal protection of the laws." The Supreme Court has long understood this broad language to protect any right that is "implicit in the concept of ordered liberty."

Furthermore, in *Loving v. Virginia*, the case that struck down anti-miscegenation laws, the Supreme Court recognized that one of these rights is the right to marry. Interestingly, the court in *Loving* cited an earlier case, *Skinner v. Oklahoma*, that connected the right to marry to the right to procreate. Insofar as biology prevents homosexual couples from procreating, one can assume that the *Loving* court had heterosexual marriage exclusively in mind.

Second, states may not violate the right to marry by redefining matrimony however they like. One way that states can violate the right to marry, as *Loving* recognized, is to criminalize certain