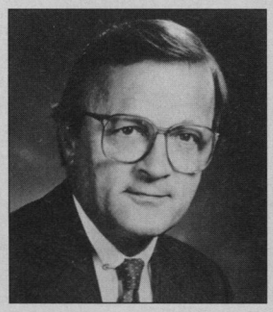
The Anatomy of a Defeat

When science policy detectives investigate the death of the Superconducting Super Collider (SSC), they won't have any trouble finding suspects—after all, two-thirds of the House of Representatives killed the project last week in broad daylight (see p. 646). And there's no shortage of motives.

In the end, the $11 billion SSC, the most expensive basic research project in history, simply had too many enemies and not enough friends. The fabric holding up the project was paper thin: a loose weave of supporters from the high-energy physics community and those politicians and business leaders from states and companies that stood to benefit from contracts to build and operate the collider. This team was not strong enough to protect the project from assaults by a core of long-time critics reinforced by an army of deficit-hunting freshmen legislators armed with allegations of cost overruns and project mismanagement. The Clinton Administration, which inherited the project from two Republican presidents, chose for the most part to remain on the sidelines. And although no one thought the SSC wasn't good science, the public never fully understood why finding something called a Higgs boson should be the country's top scientific priority.

The immediate explanation for the SSC's sudden and unexpected death was the absence of a full-court lobbying press when it mattered. Lulled into a false sense of security by the presence of a powerful set of backers—notably Senator Bennett Johnston (D–LA) and Representative Tom Bevill (D–AL), chairmen of the relevant appropriations committees in each house—proponents misjudged the strength of the opposition. As one SSC official puts it, "We were sure that [last week's] vote wasn't the final vote. Yet it somehow became the final vote. It's a mystery." By the time SSC backers realized their predicament, Johnson had already thrown in the towel.



Tug-of-war. Rep. Sherwood Boehlert says the House stood up to the Senate.

The following factors were instrumental in the SSC's demise:

Escalating costs. In 6 years, the SSC's price tag went from $4.4 billion to $11 billion, prompting more than a dozen audits and investigations that suggested vast cost overruns and general mismanagement. SSC officials vehemently reject these charges, saying that the project was on time and within budget ($4 billion of the SSC's cost growth, they point out, was to accommodate essential technical changes and 3-year stretch-out mandated by President Clinton), but the claims nevertheless tarred the project in Congress. SSC officials concede that the apparent rise in costs hurt the project, but they say that their only mistake was to start with a figure that did not include everything and ignored inflation.

This cost escalation finally caught up with the project. Although the $300 billion federal deficit is not new, this year's Congress seems particularly concerned about it. "Overwhelmingly, this was a year that many members needed a symbolic act of budget cutting," says physics Nobelist Steven Weinberg of the University of Texas, Austin, who visited many of the legislators on behalf of the project. "The SSC was a large project that many felt their constituents didn't care about." In particular, many of the 114 freshmen House members seemed to regard the SSC as a symbol of the fiscal irresponsibility of their predecessors.

Obscure rationale. Even among legislators who appreciated particle physics, $11 billion seemed to be an extraordinary expenditure for a relatively arcane purpose. As one Senate aide put it, "You just couldn't explain to anyone what good it would do. You couldn't promise anyone in Congress the first ride around the ring." SSC backers attempted to get around that by emphasizing more practical benefits, from jobs to superconducting technology and even the (relatively minor) medical applications of particle beams. This tactic, however, left the impression with some legislators that the project's chief practical aim was to cure cancer or improve heart transplants. "Some people who considered themselves political experts thought that medical spinoffs were what the public wanted to hear," says Weinberg. "But they oversold them."

Internal dissent. Some of the most damaging blows to the SSC came from criticism within the scientific community, even from physicists. Representative Sherwood Boehlert (R–NY) says he became a vocal opponent after Cornell physicist James Krumhansl, then past president of the American Physical Society, told him the value of the SSC was "highly overrated."

LOUISE WEINBERG

Symbolic vote. Steven Weinberg says legislators took the easy way out.

No international partners. Despite repeated promises that other countries were about to share costs, they never did. As one congressional aide put it, referring to the Energy Department's failed attempts to convince the Japanese to contribute more than a billion dollars, "It made people wonder: 'What do the Japanese know about the project that we don't?'"

Shallow political support. Once Ronald Reagan, on the day after his vice president was elected president, announced that Waxahachie, Texas, had beat out proposals from 24 other states to be the site of the SSC, many legislators who had supported the SSC in the hope that their state would be picked turned their backs on the project. The Texas delegation, large and especially powerful in the early days of the SSC, fought hard for the project, but the SSC did not offer enough jobs or contracts to attract a national constituency. This year, opponents in the House—who last year had won a similar vote against the SSC that was later reversed—gained further support from a grassroots rebellion against Johnston and other keepers of the purse strings. "The collider is not the issue," railed Boehlert from the floor. "The issue is whether House members are willing to stick to their guns or be sabotaged by a small group of appropriations conferees."

Poor timing. To many observers, the SSC simply picked the wrong time to be born. Its annual level of funding was peaking just as the nation's economy sprang a leak and Congress started to get serious about the deficit. Support for high-energy physics, in general, has suffered from the end of the cold war, when physics research was a matter of strategic importance and national pride. And concern about economic competitiveness had shifted political attention to projects that might lead more directly to applied technology. As Frank Press, the former president of the National Academy of Sciences, explains, "There's a tide in the affairs of man, and this just wasn't the SSC's tide."

–Christopher Anderson