IBM sponsors New York Exploratorium show

On 29 January a show of selected exhibits from the San Francisco Exploratorium opened at the IBM Gallery of Science and Art in New York, where it will remain until 26 April. Thereupon the exhibit will move to the New York Hall of Science, which is to reopen next July.

The show is called "Seeing the light with the Exploratorium" and it consists of 83 Exploratorium exhibits involving light, color and visual perception. In one exhibit, for example, three spotlights in primary red, blue and green are cast against a wall, where they combine to make white. If one walks in front of one of the lights, one's shadow appears in the white field in the color complementary to the one blocked out.

The New York Hall of Science, the next home for the IBM–Exploratorium show, originally was built for the New York World's Fair of 1964–65, where it attracted a half million visitors a year. It was closed for renovation in 1981 and currently is being refurbished and rebuilt under the direction of Alan Friedman, a respected science-museum designer who has worked at the Lawrence Hall of Science in Berkeley, California, and as a consultant to Parc de la Vilette, a gigantic science and technology exhibition complex outside Paris that is to open this March. Friedman is a frequent lecturer on science and is the coauthor of *Einstein as Myth and Muse*, which has just been published by Cambridge University Press.

Friedman strongly favors the interactive science exhibits pioneered by the Exploratorium under the leadership of the late Frank Oppenheimer.

The core of the remodeled Hall of Science, when it reopens next summer, is to consist of two sets of exhibits—on feedback mechanisms and the quantum-mechanical atom—each of which will comprise about 20 items. One of the feedback exhibits will be a model windmill designed along classical lines that turns into the wind and changes blade pitch in response to feedback mechanisms or manipulation by the viewer; another will enable one to match one's ability to regulate the temperature against a thermostat, with the results recorded by a computer. One of the quantum atom exhibits is to be a three-dimensional light sculpture of a hydrogen atom consisting of a laser beam shining onto a large fan, which will simulate oscillations among low energy states and excitation to higher states. Interactive controls will demonstrate quantum leaps and the uncertainty principle.

The feedback and quantum exhibits will be located on the main floor, while the IBM–Exploratorium exhibit will be arranged in the mezzanine that surrounds the main floor. One of the most attractive aspects of the museum is that from any point on the circular floor or mezzanine, a person will be able to see much of the rest of the room, which means that children will be able to roam among the interactive exhibits more or less at will without worrying much about their parents or their parents worrying about them.

In this Exploratorium exhibit, spotlights cast primary red, blue and green light against a wall, where they combine to make white. If one blocks one of the beams, a shadow appears in the white field in the color complementary to the one blocked.

In all, Friedman has about 35 000 square feet of exhibit space to fill. This is not a huge area by museum standards—New York's American Museum of Natural History contains a million square feet—and Friedman's staff has been hard at work building exhibits on location. Even so, Friedman and his staff face a daunting task, considering that the museum was still virtually empty at the end of 1985.

IBM paid to have the Exploratorium exhibits duplicated for the Manhattan exhibition and has lent it on a long-term basis to the Hall of Science.

—William Sweet

British science adviser resigns too

Coincidentally with George A. Keyworth II's departure as President Reagan's science adviser, British Prime Minister Margaret Thatcher also lost her top scientist. Sir Robin B. Nicholson announced in December that he was abiding by his agreement to serve a limited time and would leave Whitehall at the end of January to join Pilkington, the big glass manufacturer that invented the float-glass process now used by all leading producers. Nicholson had been chief scientist to Britain's cabinet since 1981.

In commenting recently on the twin resignations of Keyworth and Nicholson, the British newsweekly *The Economist* rightly observed, "Giving technical advice to governments is often dull (they seldom listen) and generally thankless (it is hard to be popular with politicians and fellow scientists at the same time)." Though both Keyworth and Nicholson were respected by their bosses, of the two only Sir Robin seemed to have his leader's ear on issues that went far beyond scientific matters. (See our interview with Keyworth, page 57.) With Thatcher's blessing, Nicholson introduced the first detailed annual reviews of Britain's R&D policy and worked behind the scenes to get more technology transfers from the relatively large fraction of research money that the country spends on defense. But he courted controversy by trying to preside over a modest, but painful, switch in Britain's research priorities—from basic science to applied science that results in commercial products. Keyworth, by contrast, took government funding of US science in exactly the opposite direction, advancing bud-