

SCIENCE

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Twenty years ago, a team of Smithsonian researchers landed on a string of remote Pacific islands to study the comings and goings of sea birds -- terns, albatrosses, gulls. But there was another reason they were there, one stamped "Secret." The leaders of this scholarly band of curators and ecologists reported their findings to military scientists whose interest was not birds but biological weapons.

The Pacific project was two separate missions existing side by side: the Smithsonian's and the Pentagon's. The Smithsonian was only too eager to be given funds to study bird migratory patterns and the military was eager to find "safe" sites for atmospheric testing of biological weapons in the Pacific. Such sites could be determined from the Smithsonian research.

An Army spokesman says military scientists wanted to be certain germs would not be spread beyond the test sites by migrating birds. Other military scientists also wanted to know if sea birds could be used as carriers of biological weapons, winging deadly disease across borders. In military terms, birds could be "avian vectors of disease."

The secret contract was an odd departure for the Smithsonian Institution, beloved and benign. Although the Smithsonian has for decades had unclassified research contracts with the Department of Defense, as it has with other federal departments and agencies, the Pacific Ocean Bird Project was not just another contract.

Smithsonian researchers burned copies of some project notes and correspondence with the military, but many of their originals are preserved in acid-free boxes deep within the Smithsonian's own archives, which are open to the public. Forgotten by many, consulted by few, the 17 square feet of records contain day-by-day accounts, maps, photos and correspondence with the military. All are pieces of a puzzle that show the Pacific Ocean Bird Project was one of the largest and most mysterious undertakings in the institution's 139-year history.

The Smithsonian said at the time that no part of the project was classified "secret." It was. The Smithsonian questioned how its scientists could know the military would use its study for biological weapons research. Some of those in charge of the project did know. In the end, the bird study caused a major self-examination within the Smithsonian that brought about a rededication to never again take on a secret study. And today, 15 years after the project ended, a timeless question remains: What responsibility do scientists and institutions have to weigh how research -- even basic research -- will be used?

THE PACIFIC project spanned eight years, cost the Pentagon \$3 million, and involved dozens of Smithsonian staffers and Defense Department workers. From the first, the Smithsonian knew the contract was with the controversial Fort Detrick biological warfare research center in Frederick, Md. And even that fact was classified secret. The Smithsonian was prohibited from divulging anything about its work without clearance from Fort Detrick.

Early letters to Smithsonian contract officers made it clear the Army's interest went beyond ornithology. On Oct. 1, 1963, the Army Biological Laboratories at Fort Detrick wrote to Smithsonian administrators about "Material containing Biological Weapons System information which reveals the nondescriptive code designations for BW (Biologic Weapons) agents . . ."

Although the pairing of the Smithsonian and Fort Detrick seems unlikely, in the early 1960s there were numerous ties between the military and research institutions. The Smithsonian's contract was signed in October, 1962, the same month that President Kennedy announced that Soviet missiles were in Cuba. Military exotica flourished: mind control through drugs, porpoises as animate torpedoes, new concoctions of chemical and biological weapons, turning life against life. It was a macabre time of Strangelovean fantasies when even one of God's gentlest creatures, a gull, could be considered for a doomsday assignment.

And there was another, simpler reason the Smithsonian took the contract. Money. The Smithsonian wanted more research funds.

The risks were great. If word got out that the revered Smithsonian was working on a classified project sponsored by the Army's biological warfare branch, the institution's entree to other countries might be lost, and its image blemished. There was a legal question as well. Smithsonian officials have long considered secret research to be contrary to the spirit, if not the letter, of the 19th century trust establishing the institution. The trust mandates that the Smithsonian would be "for the increase and diffusion of knowledge among men." Because of that, some at the Smithsonian have refused to believe that the institution ever could have undertaken a classified project. "Never," said David Challinor in a 1983 interview. The Smithsonian's respected assistant secretary for science, who has been with the institution since 1971, said: "Why, by our very nature we cannot do classified work. It would violate the trust. This is what the Smithsonian Institution is all about. We have to publish what we do. If we don't, we are living a lie."

But last year, Challinor learned that parts of the Pacific project had been classified. "It is only recently that I got the inside scoop on that myself," he said. ". . . it didn't smell right to me in the first place."

If it was not a lie that the Smithsonian lived during that period, then it was a selective rendering of the truth. The Smithsonian touted the project as a measure of its devotion to the environment. "The project which surpasses all others in number of personnel and size of the geographical area covered," said the Smithsonian's 1965 annual report. With a certain irony, the report warned of the hazards man posed to his environment and himself:

".. man, in his struggle to advance himself, . . . is subjecting the total environment -- water, atmosphere, and living tissues -- to physical and chemical influences which need to be measured now and in the future. For unless these fundamental changes in his environment can be assessed, man himself, through ignorance, may fall victim to his own progress." That was written by Philip S. Humphrey, then the Smithsonian's chairman of the Department of Vertebrate Zoology and head of the Pacific project.

Smithsonian researchers did study the migratory patterns of birds and the rich ecological mix of species on the islands. They published reports detailing their findings for the scientific community. And there is no evidence that Smithsonian personnel took part in testing biological weapons.

Said the project's research curator, Arthur Binion Amerson: "The Pacific program was one of the most successful modern day field studies ever done. We were not involved in any military activities. What they (the Depart-

ment of Defense) did with it was their business."

THE PACIFIC study had projects within projects. One was Operation Starbrite, described in a 1964 Smithsonian report classified "Confidential" by the Army. The Starbrite program consisted of monthly 15-day cruises aboard U.S. Navy vessels operating out of Pearl Harbor. Cruising a 50,000-

square-mile grid of ocean and atolls, the Smithsonian personnel were to record "all visible animal life." From sunrise to sunset, they were to note the activity of birds, the species and numbers, and their every movement.

Officers from Utah's Fort Deseret Test Center, where biological weapons research was conducted, accompanied Smithsonian scientists on many "Starbrite cruises" to islands with names like French Frigate Shoals, Christmas Island and the Phoenix Islands.

"Attempts were made to collect as many specimens as possible," noted a progress report. "This was accomplished with 12-gauge shotguns (a common method of collecting birds for research) from the helicopter deck or from a whaleboat." Parasites and stomach contents were preserved for further study.

Another 1964 report details a biological survey of Sand Island and Johnston Atoll, described as an island "naturally favored by birds as a breeding site and stopping off place." Johnston, 700 miles southwest of Hawaii, was used between 1958 and 1962 as a nuclear testing site. Since 1970, thousands of tons of nerve gas have been stored there.

Much of what the Smithsonian researchers did was standard procedure. But against the background of the military's interest, their reports read like passages out of *The Andromeda Strain*. Bird blood samples were taken within 20 minutes of capture, placed in glass vials, frozen, then shipped to Fort Detrick.

Before the project was over, 2 million birds were banded -- Masked Boobies, Great Frigatebirds, Sooty Terns. Some had orange streamers tied to their legs so that their flight patterns could be seen at sea. Many were tracked by radar. Their dates of arrival and departure were recorded, as were their areas of origin.

By 1964, less than two years into the study, security measures were increased at the urging of the military. Cryptic messages were exchanged among the expeditions in the Pacific, the Smithsonian and Fort Deseret Test Center.

In April of that year, Smithsonian researchers were told they needed a series of inoculations. Some received their shots at Fort Detrick. In a memo written that month, under the heading "Inoculations (Classified Information)," the Smithsonian's Charles Ely wrote: "Decision to get everyone in the project immunized as soon as possible without actually calling in people from the field. Must be very careful about the approach and consider it a routine matter. Specifics may not be discussed by phone." A later memo spoke of personnel getting "antigent (sic) immunization" at Fort Detrick. (Humphrey speculates that the Army did not want Smithsonian personnel to contract diseases from the test areas.)

Documents now a part of the Smithsonian archives show Ely was particularly concerned with security. In April of 1964 he wrote: "As a result of a recent security meeting in Washington some aspects of our program have been classified by the military. It therefore becomes important that our people be even more careful about discussing the project with outside people. No one wants to be branded a security risk as a result of idle conversation.

"A discussion of this matter with S.I. (Smithsonian Institution) personnel under you will vary with the individual and his knowledge of the program . . . It should be enough for our men to know that they are securing data for the Division of Birds, S.I. and that the military is interested in learning the ECOLOGY (or environment) of areas in which they may someday be committed. Military and ecology are both nice vague terms . . .

"Forget the term Starbrite . . . Don't use any naval ship names with term S (Smithsonian) . . . don't associate DTC (Deseret Test Center) with S (Smithsonian) . . . Don't mention the Eastern organization (or live bird shipments) in any connection . . ."

On April 23, 1964, Ely wrote a colleague: "I've started a procedure of burning all project notes, carbon papers, etc. keeping only the original and carbons to be transmitted whether potentially classified or not . . . Also I'd appreciate receiving out here only the minimum classified information needed to keep me abreast of developments . . . This cloak and dagger business is not for me."

In a recent interview, Ely, an ornithologist lecturing in zoology at Fort Hays State University in Kansas, said he could not discuss the specifics of the project: "If they (the military) told me exactly what they were going to do and it were a secret, I wouldn't tell you. That's what it boils down to."

Research curator Arthur Binion Amerson said he never asked what the military's interests were. "We knew what Detrick was supposed to do, but we didn't know what they were doing . . . Yes, we heard rumors, but we had no physical evidence of what was going on."

Project head Humphrey is director of the Museum of Natural History at the University of Kansas. In a recent interview, he said: "What I knew was that the military was planning certain biological weapons testing in the central Pacific and basically they wanted to know whether it was safe. So it seemed to me then, as now, there was a clear distinction between the basic ecological work done by the Smithsonian and how that information was subsequently used by the military."

Humphrey said he remembers the names of two "candidate agents" to be tested by the military -- VEE and Q Fever. VEE is Venezuelan Equine Encephalitis, a highly infectious virus that causes an acute influenza-like syndrome. One medical manual describes the symptoms as "severe headache, chills, fever, and explosive vomiting and diarrhea." VEE viruses, it says, "have produced more human illness in the Western Hemisphere than any other arbovirus." Q Fever is an acute infectious disease that can linger for months though it is rarely fatal. Humphrey said the biological agents were tested in aerosol form. Humphrey said the Army needed the information to prevent the spread of the biological agents by birds, but was not aware of any military interest in using birds as carriers of agents.

He said he was uncomfortable with the notion of letting them loose. "The more we learned about the tropical ecology," he said, "the more complicated it seemed to be and the less feasible it seemed to me biological weapons testing became. I made this point to various people including to the President's Scientific Advisory Committee. I have no idea as to the outcome of my expression of concern."

Nevertheless, Humphrey says, "I think that was at that time an appropriate function for the Smithsonian and, even today, I think it would be an appropriate function for the Smithsonian in the national interest. I personally don't happen to agree with the notion of biological warfare. I think it's hideous, but it's a fact of life."

The military's project officer was John B. Bushman, then stationed at Fort Deseret Test Center in Fort Douglas, Utah. He now works in Washington with the Environmental Projects Branch of the Army Corps of Engineers. He declined to be interviewed.

IN 1969, the secret escaped for a time as television and newspaper reporters got suspicious, but their stories were met with public disbelief and the Smithsonian's own indignant protestations. A study of birds and nothing more, the Smithsonian told the Audubon Society, senators and puzzled museum patrons.

Once before, in December 1964, there had been a brush with the press. Ely wrote in a memo that he received a phone call from a local paper inquiring about their work and asking about a tie-in with the Atomic Energy Commission. "The reporter also copied a lot of misunderstood tripe from various books and previous articles, some of which I changed . . . All this further convinced him that we are with AEC -- which I guess at least throws him on a cold trail."

Four years later, in December 1968, the press posed a more serious threat. A project memo notes: "The National Broadcasting Company continued to make inquiries of present and former Program employees concerning work accomplished on the Program."

A letter from a researcher to a Smithsonian administrator notes: "The ship's name and our location are particularly touchy. Now NBC can tie up the Smithsonian and the Hall (the USS Granville S. Hall) and no telling what else."

The NBC report aired Feb. 5, 1969. The next day inside The New York Times, The Washington Post and other papers, articles suggested a link between the Smithsonian project and chemical or biological weapons. The Defense Department denied any "military motive behind its sponsorship." The Smithsonian "insisted that it had no knowledge that its migratory bird study was in any way related to chemical-biological warfare "research."

The Smithsonian attacked the reports.

Science magazine wrote an extensive article and quoted a senior Smithsonian official who "told Science 'unequivocally' that the Smithsonian 'has never engaged in any kind of biological warfare research.' He said there is 'no evidence' that the Smithsonian has served as 'an unwitting dupe or cloak for some kind of biological warfare research.'

In a March 10, 1969, letter to Rep. William F. Ryan, Smithsonian Secretary S. Dillon Ripley wrote: "the Smithsonian Institution does not attempt to ascertain reasons why an agency decides to offer support for our scientific efforts . . . Rarely, if ever, are scientists or institutions in a position to predict how or where the data arrived at from their studies may be utilized. The line between the utilization of research information for health-oriented objectives and other applications, (biological warfare for example) is too fine to be discernible."

Smithsonian records do not make it clear what senior officials at the institution knew about the project.

DURING THE YEARS of the Pacific project, there were many at the Smithsonian with interests in both science and national security. Sidney R. Galler worked at the Office of Naval Research from 1948 until 1965, when he joined the institution. While with the Navy, Galler oversaw projects related to what he called in a recent interview "environmental warfare" and was "instrumental" in helping Humphrey get a contract to do research similar to that which was later expanded into the Pacific project.

"I wasn't interested in the germs," said Galler, "I was interested in the animals and their behavior that could be utilized by an enemy to carry the germs." Some Pacific oceanic birds, he said, can "migrate tremendous distances and reach target areas with about 97 percent accuracies." He said the Department of Defense was interested in "the development of defensive capabilities."

Galler said he was not aware that the Smithsonian contract was classified or that actual agents had been tested. Today Galler continues to work as a "consultant on environmental warfare defensive strategies."

At the time the Smithsonian contract was signed the late Leonard Carmichael, a psychologist, headed the Smithsonian. During the early 1960s -- while the Pacific bird study was under way -- Carmichael served on the board of a CIA-front organization called the Human Ecology Fund. That body channeled money to various programs of interest to the CIA under "Project MKULTRA," which, according to 1977 Congressional testimony, conducted the CIA's chemical and biological research. There is no evidence Charmichael was involved in any such studies.

In October 1961, the CIA funded a project titled, "Role of Avian Vectors in Transmission of Disease," according to agency documents released in the 1970s. Whether there was a connection between the Smithsonian's bird project and the CIA's is unclear. A Freedom of Information Act request filed with the CIA in 1982 is still "awaiting processing" according to a CIA spokesman.

CARMICHAEL was succeeded in 1964 by S. Dillon Ripley, an ornithologist. During World War II, Ripley was on assignment in the Far East with the Office of Strategic Services, the forerunner of the CIA. In a 1983 interview, Ripley said he was certain the Pacific project was not classified. Shown various documents from the Smithsonian's archives that were marked "secret," Ripley said:

"I can't say that I have ever seen this kind of document before. No, I've never seen these things. I can't help you on that because it doesn't ring a bell with me at all . . . to me as a bird man, this was a wonderful breakthrough because it was a source of funds. That's all I know about it."

MILITARY FUNDING for the Pacific Ocean Bird Project came to an end on June 30, 1970, seven months after President Richard Nixon renounced the use of biological weapons.

On the sixth floor of the Smithsonian's Museum of Natural History, the ornithology department, are thousands of bird skins -- terns, boobies and shearwaters -- researchers brought back from the Pacific project. They are stacked drawer on top of drawer, cabinet on top of cabinet, creating a scene reminiscent of the closing shot in "Raiders of the Lost Ark."

Some scientists and researchers at the Smithsonian were incensed over the Pacific project. In a Nov. 17, 1969, memo the National Museum of Natural History Senate of Scientists attacked the project and reaffirmed the Smithsonian's founding principles:

"This issue is of such controversial nature that the Senate officers will keep themselves informed of developments to insure that neither this project nor any other is allowed to affect the scientific climate, access to data and specimens, or the good name of the Smithsonian Institution in national and international science. The points are as follows:

"1. The Pacific Ocean Bird Project, with Philip Humphrey as Principal Investigator . . . will terminate without reservations of any sort on June 30, 1970. Simultaneous termination of Philip Humphrey as Research Associate in the Department of Vertebrate Zoology would also be viewed with favor by the NMNH (National Museum of Natural History) Senate members . . .

"The goal of the NMNH Senate of Scientists regarding any scientific project, past or present, in which SI (Smithsonian Institution) staff members are involved is to insure the complete free exchange of scientific data, specimens and publications to all qualified scientists throughout the world, regardless of sex, religion, ethnic group or nationality. No NMNH staff member shall en funds from any sources that have any restrictive clauses in it that violate the above principles."

The project was concluded. But a final word belonged to those responsible for storing the safe containing documents on the project. In a Feb. 12, 1971, letter to the Defense Supply Agency, Smithsonian General Counsel Peter G. Powers wrote: "When the Pacific Project terminated on June

30, 1970, it was necessary to find a place to put the two drawer Diebold container. It was moved to 1242-24th Street, N.W. and will be kept there until such time as another classified project is obtained by the Smithsonian." "BY GOD, it would be over my dead body if that thing were ever cranked up again," said David Challinor, who since 1971 has directed the Smithsonian's scientific research efforts. As a result of the Pacific project and the turmoil it caused, the Smithsonian Institution has, since 1970, inserted a clause into its contracts specifically prohibiting classified work and requiring all findings to be published in the open scientific literature.