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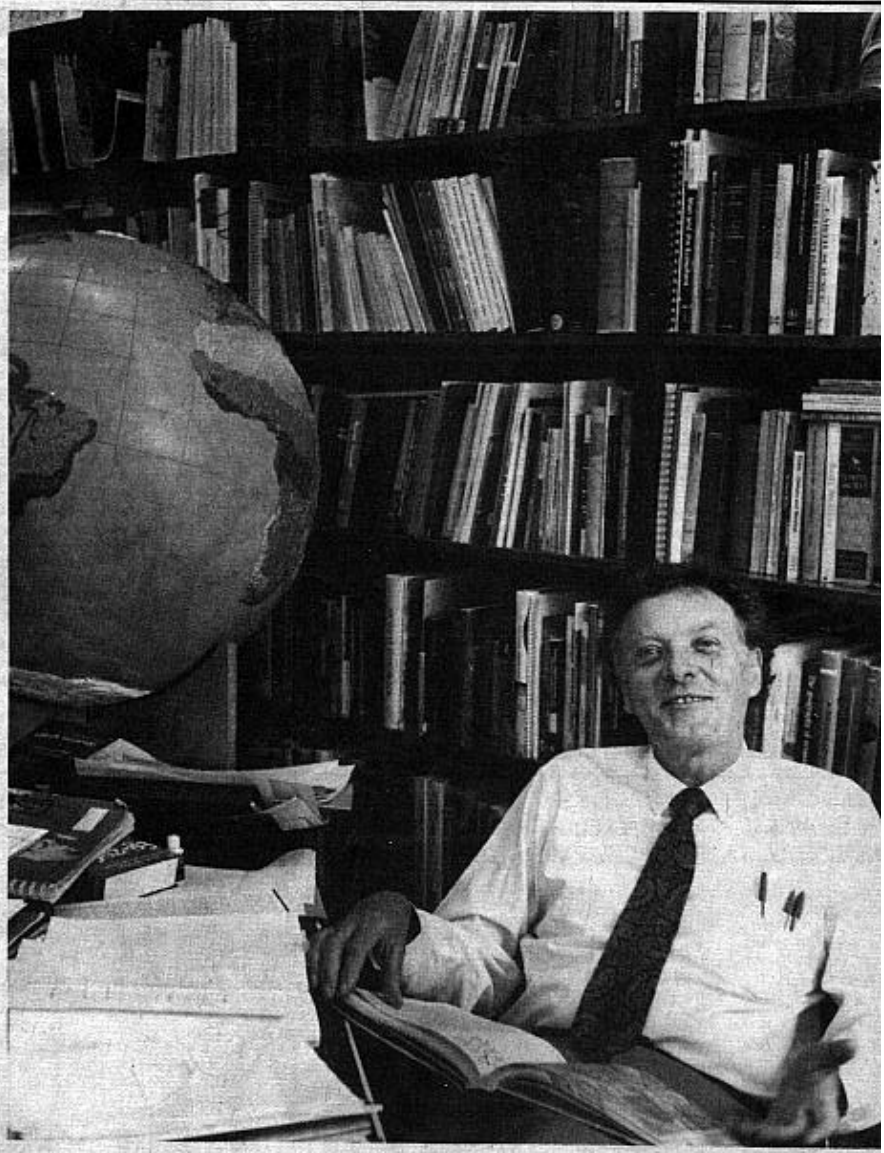

Vincent Malmstrom in his Dartmouth College office, headquarters for his research on ancient civilizations of Middle America and possible contact between them and cultures on the other side of the Pacific Ocean.

Valley News — Jean Byars

# Geographer Afield

By JEAN BYARS
Valley News Correspondent

Vincent Malmstrom is sometimes accused of stepping a bit out of his field. He's a geography professor at Dartmouth who specializes in cultural geography.

"Historical geography and cultural geography intersect in ancient civilization," he said in his office last week. "For that reason I'm treading on the toes of anthropologists and archeologists."

Malmstrom, however, believes his geographer's eye has allowed him to take a fresh look at Middle American cultures. And he acknowledges readily that his research is unlike that of anthropologists and archeologists. “1 never have taken a spade of dirt in my life."

Surrounded by maps, globes and textbooks in a room that looks out onto a sloping rise, Malmstrom talked about his hypothesis that there might have been contact between Orientals and Middle Americans -- people from Central America and Mexico -- as much as 4,000 years ago. It’s a wild hypothesis that encompasses lengthy ocean voyages by ancient civilizations, and turtles attuned to magnetism.

Geography field trips have sent Malmstrom to Middle America several times over the past decade. There, his observations of the solar orientation of ceremonial sites, most of them pyramids, led him to hypothesize outside the field of geography, about the people who built the sites, about their religion and their mathematical and astronomical knowledge.

His thinking is close to that of Thor Heyerdahl, who, in 1947, sailed a reed raft from South America across the Pacific Ocean to demonstrate that people of the Western Hemisphere might have contacted Polynesian cultures in prehistoric times. In his articles published in National Geographic in December 1978, Heyerdahl said: “I have spent the better part of my life trying to disprove that the sea was a barrier to human travel and cultural exchange."

Malmstrom agrees with Heyerdahl, and goes a step further. While Heyerdahl believes that South Americans sailed from their western coast to the Polynesian islands, Malmstrom believes that southern Asians -- perhaps residents of Shang Dynasty China -- may have sailed to the Pacific coast of Middle and/or South America.

“The Asian contact idea is not new,” Malmstrom said, "but it is not generally accepted."

The traditionally held theory is that the earliest civilization in Middle America began on the Gulf coast. Malmstrom firmly believes the earliest established civilization in that part of the world was at Izapa, an ancient town not far from the Pacific, in southern Mexico. Observations that he's made during trips in the past few years have increased Malmstrom's confidence in his hypothesis.

Malmstrom's observations and research are clues to mysteries that intrigue and excite him. He is constant animation as he talks, moving his hands and putting them behind his head, leaning back in his swivel chair, standing up to indicate an area on a

map. As a teacher, he aims to pass on this excitement and curiosity to his students. It’s difficult to hear him talk and not become intrigued. "It has been on going since '73. I will continue until I get all the pieces into place."

On a field trip to Izapa in 1975, Malmstrom made what be considers one of his most important discoveries. It was the night before he was to leave for home. Because of the discovery of a magnetic stone turtle head that afternoon, whose meaning he had not yet deciphered, he was too excited to sleep, and tossed and turned all night.

He had been taking his last tour of the area when he'd noticed that the needle of his compass moved when he held it near that stone turtle, which had been carved before the discovery of metal tools. Izapa is not far from a Pacific Coast beach to which turtles from the Galápagos Islands migrate annually.

His mind raced as be tried to sleep. He knew that the Chinese were credited with discovering magnetism. Had the people at Izapa made a separate discovery of magnetism? Is there a connection between turtle migration and magnetism? Had the Chinese made contact with coastal residents of Middle America?

The long night finally passed. He woke the students who had accompanied him on this trip and they checked other carvings in the area. None of the others was magnetized, but the large basalt stone turtle was magnetized precisely on the tip of its snout.

He demonstrated on the huge globe that dominates his office that the Galápagos Islands are 900 miles off the coast of Izapa and turtles make an annual migration from these islands to a precise spot on the shore not far from Izapa. It occurred to Malmstrom that not only might the Izapans have followed the turtles along their migratory path, they might also have connected magnetism with navigation. If these sea-faring people were familiar with magnetism, he wonders, could they have used it to navigate to South America or Polynesia?

Malmstrom enjoys a mystery, and unraveling this one caused him to read everything he could find about turtles. He discovered that some zoologists consider magnetism a possible explanation for turtle migration. "My theory was not as far out as I had thought," be said, admitting that be is pleased to see recent publicity in scientific journals associating magnetism with animal migration.

Malmstrom also is fascinated by the solar orientation of ceremonial sites and the origin of an ancient sacred calendar.

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With his hands in motion, Malmstrom explained his hypothesis that a 260-day sacred calendar as well as a 365-day solar calendar originated at Izapa in the 2nd millenium B.C. He also believes that the building of ceremonial sites with a consistent solar orientation began in Izapa. He says he has discovered that sites from north of Mexico City to the tip of the Yucatan Pennisula are oriented toward the setting sun of August 13. On this date the sun is directly overhead at Izapa, and it is Malmstrom's belief that these pyramids were built in this manner because their builders inherited this architectural ritual from Izapa, which -- again, be believes -- was the cradle of their civilization.

During a trip in 1982, Malmstrom investigated architectural sites in Ecuador, Colombia, Bolivia, Peru and Easter Island in search of connections with Izapa. He checked statues for magnetism and ceremonial sites for similar orientations. He found something else.

"l have never gone to the field and found what I expected to find," Malmstrom smiled as he leaned back comfortably in his pivoting office chair.

He and his student researcher found no evidence of similarly magnetized statues at the places they visited in South America, nor did they find evidence that early residents of South America had any knowledge of the sacred calendar. They found little solar orientation in the South American sites they visited, and what they did find was not the same as that in the 30 sites Malmstrom had studied in Middle America.

The high point of the trip came on Easter Island, where the team discovered similarities between stonework and vegetation of South America and Easter Island.

The famous, intricately fitted stonework in walls at Machu Picchu and at Cusco in Peru was echoed in walls on Easter Island. The painstakenly built walls of fitted stones were built in South America, Malmstrom explained, because of the threat of earthquakes. But there are no earthquakes on Easter Island, and Malmstrom reasons that these strikingly similar walls are copies of the ones in the Andes.

At Lake Titicaca, on the border between Peru and Bolivia, totora reeds are used by natives for rafts used to sail on the lake. They are also appropriate material for seaworthy rafts, and they grow in only two other places in the world -- the lowlands of coastal Peru and freshwaler lakes in an extinct volcano on Easter Island. Malmstrom believes that the reeds growing on Easter Island were brought across the 2,000 miles of ocean by early sailors.

Also on Easter Island, at the once-sacred site called Orongo. At Orongo, once the most sacred site on Easter Island, the team found evidence of an orientation to the sun's locations at the winter and summer solstices. Since there is no agricultural reason for

noting the solstices in that climate, Malmstrom's theory is that that architectural orientation was brought from foreign shores.

Legends concerning the history of Easter Island speak of two peoples who had a great battle there. Could they have been South Americans and Austronesians (people from islands of south and central Pacific)? Malmstrom asks.

It is generally accepted that the earliest settlers came to the Americas on foot over the Bering Strait between 70,000 and 30,000 B.C. "Why is it so hard to imagine that sailors came across the Pacific in 2,000 B.C.?" asks Malmstrom.

A conversation with Malmstrom raises more questions than answers. Could there have been contacts between Native Americans and from sailors of Shang Dynasty China (2500-1700 B.C? Could Austronesians have island-hopped from Taiwan to the Marquesas and Hawaii and then to Easter Island and South America? Could the understanding of magnetism and the sophisticated mathematics of the Izapans have been brought from the East? Or is there a possibility that the knowledge traveled in the other direction? Is it possible that the highly developed pottery of Valdivia, Ecuador (dating to 3800 B.C.) could have been influenced by earlier Japanese pottery?

Malmstrom hopes to go to China next year to search for clues from that side of the globe. He has a lot of questions. "The day I think I know it all and have no more curiosity, I am dead . . . or I might as well be."

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**(Back to Table of Contents)**