

# THE NORTHERN CALIFORNIA EARTHQUAKE OF 1989

by Jack P. Morriss

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On October 17, 1989 at 5:04 PM PST, an earthquake of magnitude 7.1 struck the northern California area about 70 miles south of San Francisco. This earthquake has been determined to be the most severe since the great earthquake that struck San Francisco in 1906 (estimated magnitude 8.0). I was in San Francisco attending a national conference during the week of October 16th through the 19th and the following are my observations of the quake and its aftermath.

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## THE QUAKE:

On the afternoon of Oct. 17th, Andy Cronberg, Art Adams and I were returning from visiting the US Army Corps of Engineers scale model of San Francisco Bay in Sausalito, just north of San Francisco across the Golden Gate Bridge. At 5:04 PM we were in a rental car one block from the City's convention center in downtown San Francisco. At that moment we were in rush-hour traffic moving very slowly when the car began to perform strangely. As we looked around we noticed that other vehicles were rocking back and forth. We immediately experienced a sensation that the pavement below the car was sinking. We looked out and saw other vehicles and particularly a mass transit bus rocking back forth. When I saw the parked car next to us rocking, I said, "It's an earthquake." I immediately looked up next to our car to see if a tall building was next to us and if it was rocking also. (I was prepared to jump out of the car and try to run for safety.) Since there was no building next to us and the building on the other side of the street was only a few stories high, I decided that we were safe and just watched the rest of the quake.

We watched the vehicles rock as if they were riding over a couple of waves with an amplitude of about one foot. I looked over to the right and noticed that many people were standing under the over-hang of a building and commented that they ought to be moving into the street. A driver jumped out of his van and moved to our

side of the street as the last of the motion died out.

There was no noticeable damage or any visible evidence that an earthquake had just occurred.

It took us about half of the period of the quake to determine what it was; just a few seconds to determine that we were relatively safe; and then we watched the rest of the action. We initially estimated that the period of the quake was about 30 seconds. Subsequent analysis by the seismologists indicated that it lasted about 15 seconds.

It was the first time the three of us experienced the sensation of being in an earthquake. We had no idea how big it was, the loss of life, the serious damage, and impact it had the area and the country.

A few minutes after the quake, I turned on the car radio and found out that this quake was considered to be bigger than recent ones and considered to be quite serious. Over the next hour the significance of the quake and most of its results were reported.

It was being reported that we could expect serious after-shocks to follow with large shocks expected at any minute. It was then that I fully realized that I was in the middle of a major natural disaster and possibly in some danger. Although the area experienced over 2000 measured after-shocks before we left, I never noticed any other quakes including over a half dozen that exceeded 5.0.

From that time on, my awareness of everything seemed to be sharper and left impressions that were interesting to me.

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## PEOPLE:

Perhaps the most interesting thing I noticed was the reactions of the people I saw after the quake ended.

### **People On the Street:**

The first thing I noticed was the spontaneous reaction of the people on the street and in their vehicles immediately after the quake stopped. All of the people were laughing or smiling as if they were proud of themselves for accomplishing something. (Later I found out that many other people had vastly different and opposite reactions.)

About an hour later (About 6:00 PM), I noticed that the hundreds of people on the street looked anxious and worried. Some were walking up to cars and asking for rides. (The City's buses operated on electricity that had been knocked out within seconds of the quake.)

Besides reacting to the danger each may have experienced, they were also worried about their families and their homes. Not being able to get home quickly must have been difficult to cope with.

We were out after 9:00 PM and the City was blacked out, without any electrical power. I noticed that people were walking quickly to their destinations and mostly in groups. Many people were standing or sitting in doorways and must have been intimidating to individuals or small groups of walkers. People were a little distrustful of each other although we neither saw nor heard of any confrontations.

### **People In the Hotels:**

When we walked into our hotel (The Westin St. Francis) at approximately 6:30 PM the activity in the lobby was hard to believe. There was no electrical lighting and lit candles were everywhere. The lobby was filled with people. Many of the people determined that they could not go home and elected to stay in the lobby. Many people no doubt felt that they were safer if they stayed in the lobby instead of going up to the higher floors. Some decided that that without elevators or lighting that the trek to their dark rooms was not worth the effort.

While the lobby was filled, people were in deep lines at the telephones trying to make calls.

Many people were going up and down the stairs to and from their rooms. Some people were checking out and attempting to go to the airport. (The airport was closed for at least 15 hours after the quake.)

As the night went on hotel staff began checking people that looked suspicious to them and tossed a few people out. When we came back to the hotel around 12:00 AM, people were trying to sleep on the floor or in chairs with their luggage around them while others continued trying to phone people and others continued moving up and down the stairs.

Some of the hotel guests were elderly or in poor physical condition and it was very difficult for them to climb the stairs.

### **Hotel and Service Staff:**

Of all the people I talked to or observed the most interesting were the people that worked in the hotels or at the University Club on Knob Hill.

The hotel staff at the Westin worked throughout the night with little or no rest. Some stood in stairwell landings shining lights on the steps to help people move from floor to floor in the darkness. Others tried to escort people to their rooms. Staff provided soft drinks and juice in the lobby and bars (liquor was removed almost immediately and was not available). Later in the night pillows and blankets were handed out to those that wanted them. Staff was asked over and over again for information that they did not have. Later in the night security people were very noticeable throughout the hotel.

One lady who has worked at the hotel for 29 years lives in Oakland across the Bay. She took over 4 hours to get to her job in the hotel coffee shop. She helped clean tables all morning as the hotel served a limited breakfast to everyone that came in.

On the night of the quake, we had been invited to a formal dinner for 200 people at the University Club prior to the quake. We decided

to walk up Knob Hill from our hotel since there was little else to do and to see if others were there and how they had fared. We were surprised when our hosts were there and that the event was on although about only 10 people showed up. (Andy and I were the only ones there informally dressed. The meal was prepared because the building still had natural gas for food preparation and candlelight allowed visibility.) The staff prepared an outstanding meal under the most difficult conditions and some of them also came from other jobs without being able to go home or check on their families.

It was hard for me to understand how the service people in these facilities could stay at their jobs with all the uncertainty about their personal lives and property. I expected this from public safety, utility, and emergency personnel but not from these people. I was impressed with their job dedication or their need to keep their job.

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#### **THE STREETS:**

The downtown area was without power immediately after the quake throughout the remainder of the afternoon and night. Right after the quake, police were directing traffic at intersections. Within 10 minutes or so they left and the motorists were left to themselves to get through the many intersections. (I presume that they were called to close off areas that were damaged, on fire, or for a higher public safety priority.)

A little later (about 5:30 PM) I noticed quite a few groups of people spilling out into the streets at various locations and found out that they were listening to car radios describing what had happened and providing information and instructions.

About three hours after the quake the streets were virtually deserted and the lack of people was a little disconcerting.

The next morning the streets were busy again for a while. When people realized that the area was without electricity, they began leaving the downtown area and it again became somewhat deserted and little intimidating, particularly at night.

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#### **THE HOTEL:**

As mentioned, the hotel also immediately lost electrical power. Also lost and more important was the loss of water pressure, which put the plumbing on the upper floors out of service and made the danger of fire more serious. The staff tried to make sure that no one took candles to their room. (They failed with Andy and me.)

Even in the middle of the day the halls of the hotel floors were very dark. You could walk into people in the halls if you weren't careful. When you got to the area that was near your room, you had to feel the walls to find the door, then feel the number on the door to figure out if it was the door to your room. It was a little harder at night.

Our rooms (on the third floor next to the roof of ballroom) had windows that provided some light during the day. We kept the windows open to keep the temperature comfortable for sleeping. The night of the Quake we had no lighting. The next evening we used some candles to provide light in the late afternoon.

In the afternoon after the Quake we noticed that the hotel had about a dozen portable toilets placed in the parking area. (The hotel had its power and water restored about 48 hours after the quake occurred. The downtown area of San Francisco was the one of the last areas to have these services restored.)

Since the hotel had no water or power more than 24 hours after the quake, Andy and I decided to try to find another hotel south of San Francisco in an area where power had been restored by Wednesday afternoon, (the day after the quake). I took the telephone book from our room at the Westin, climbed out onto the roof where there was enough light to read, and called out phone

numbers to Andy who was in the hotel room. (Phone service had been restored earlier that day.) After calling about 6 or 7 hotels, we finally found one that had rooms available with electricity and hot water for showers.

We packed our bags, checked out of the dark hotel and drove to south San Francisco.

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### **THE DAMAGE:**

The morning after the quake we were notified that our conference had been cancelled and we knew that it was virtually impossible to get a flight out of the area that day, so we drove around the downtown area and south of the city and along the ocean.

We saw very little damage. Most buildings that were damaged were few and far between. Most common were broken windows and superficial cracks. We saw only a few buildings that had significant structural damage, and those were mostly older brick buildings that were only a few stories tall. Of these buildings, the most damaged were either standing alone or at the end of a row of buildings.

The radio repeatedly asked that people not go to those areas where the greatest damage occurred, and we did not attempt to get close to those areas. (Later the damage was estimated to be between \$7 and \$10 billion for private property, bridges, and roadways.)

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### **INFORMATION:**

Without power it was very difficult to get any information of what had happened or more importantly what if anything we should do. Just after the quake, local radio was the source of information available in the downtown area. The newscasters seemed to be content to relay individual reports of what had happened to them. Later they began providing information on damage, places to avoid, and requests for

certain people to report to work (utility, public safety employees, etc.)

We listened to radio for about 7 of the first 24 hours after the quake and never heard what if any precautions or instructions to follow for those of us who had never been through an earthquake of any kind. Since the San Francisco area has lots of tourism, I thought that that was failure.

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### **REFLECTIONS:**

It took a number of days to appreciate that my reaction to this event was substantially based on being lucky enough to be in a very safe place at the moment the quake occurred.

I was pleased with our reaction to quickly determine what was occurring, instantly decide that we were safe, and have time to watch the quake continue. Initially we looked at it as a positive adventure. Later the affect it had on people who happened to be in frightening places, that may have lost property, and the realization that many lives had been lost provided an appropriate balance.

A week after the quake, over 50 people were confirmed dead, with over 60 more still missing (presumably on the collapsed freeway). The Bay Bridge collapse would take 3 to 4 weeks to repair affecting over 150,000 vehicle per day, and the Nimitz Freeway that collapsed had no schedule on if when or how it would be replaced.

Although it was not as severe as the Quake of 1906, the Quake of 1989 obviously will have had a greater impact on Northern California than the earlier one.

I'm glad I was there and will go back to that area whenever possible.

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