The 1970 Ancash, Peru Earthquake

Matthew Van, PhD Student, Disaster Research Center, University of Delaware

Introduction

Rarely does a single disaster have as profound an effect on the psyche of a nation while also leading to immediate bureaucratic reforms. Peru is of course no stranger to earthquakes, as its location at the interaction of two tectonic plates would indicate. The 7.9 magnitude earthquake that struck off the coast of Ancash department close to the Peruvian city of Chimbote on May 31, 1970, and inflicted an estimated death toll of 70,000 has most notably appeared in English language disaster literature through the works of Anthony Oliver-Smith and other anthropologists, who highlighted various noteworthy aspects such as the complete destruction of the town of Yungay through a landslide caused by the earthquake. The Peruvian government's own National Institute of Civil Defense was established as a direct result of the earthquake two years afterwards. This poster attempts to explore the significance of the 1970 Ancash earthquake in the Spanish language body of academic literature.

Purpose and Research Question

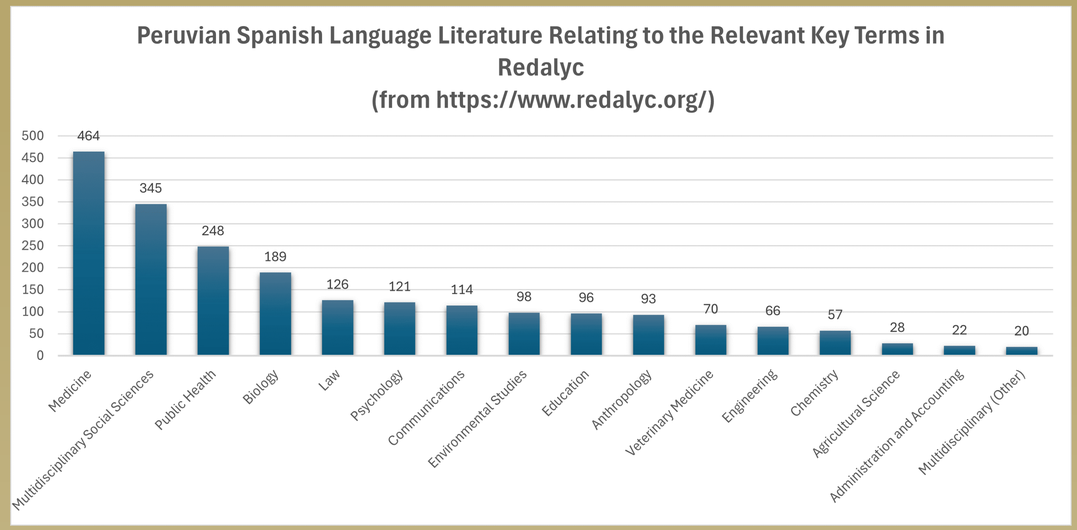
The purpose of this research is to study the impact of a major South American disaster on the literature in the subsequent decades in the Latin American world.

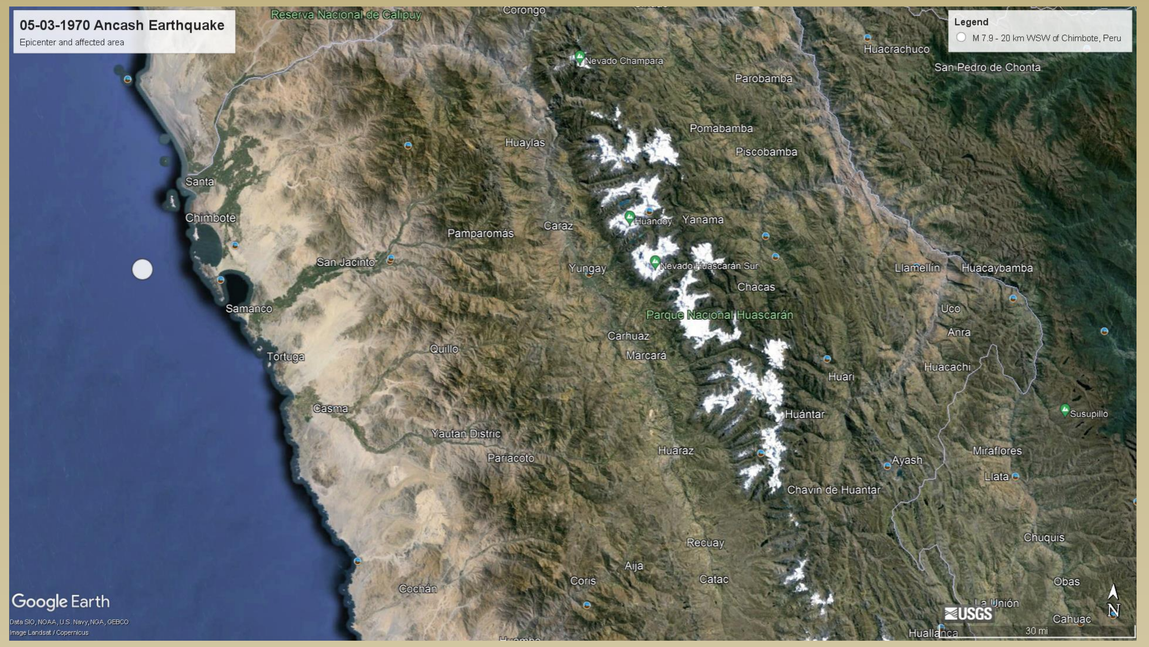
The research question is as follows: Is coverage of the 1970 Ancash earthquake and Yungay landslide most prevalent in the disciplines of civil engineering and anthropology for Spanish language academic journal articles from Peru?

Hypothesis: A plurality of sources in Spanish language academic literature from Peru concerning the 1970 Ancash earthquake can be classified in the fields of engineering or in anthropology, due to the earthquake's influence on a national level in civil defense and on a disciplinary level for anthropology overseas.

Methods

An analysis was conducted using sources from numerous databases, with Google Scholar being the initial source. However, it became apparent that Redalyc (https://www.redalyc.org/), operated by the National Autonomous University of Mexico, was the database that was best for being able to filter the relevant Spanish language sources on this topic. Originally intended as a systematic literature review, the scope was reduced due to the resulting difficulty in conducting a literature review in a non-native language. The initial plan for both English and Spanish language sources became a focus on solely Spanish language sources, which then became narrowed down to Spanish language sources from Peru. The four key words used simultaneously were "terremoto," "Ancash," "1970," and "Yungay." Peru was the natural choice for the academic literature to be selected from, given that the major effects of the disaster were limited confined to that country. Results were classified by their academic discipline and then a systematic review of the engineering articles was conducted one by one.





Google Earth Pro 7.3.6.9796, (2024)

U.S. Geological Survey, 2024, USGS Earthquake Hazards Program, accessed June 1, 2024 at URL https://www.usgs.gov/programs/earthquake-hazards

Results and Discussion

For Spanish language sources, civil engineering was not a majority or even a plurality of journal articles published, contrary to expectations, and ended up as the twelfth highest category. In an additional surprise, anthropology was also not remotely close to plurality either and the number of sources exceeded that of engineering, comprising the tenth highest category.

What are the implications of medicine, multidisciplinary social sciences, public health, and biology being the top categories for Spanish literature publications from Peru? These fields do have a relatively higher rate of publications, which may account for some of the high quantities of journal articles in them. Additionally, it could be reflective of the state of academic research funding prioritization in Peru over recent decades.

A complete review of all Spanish language sources from Peru grouped under engineering using the four key terms previously mentioned found that of the 66 sources, which became 65 since one entry appeared twice but with different authorship, 1 directly related to the 1970 Ancash earthquake, 4 others were tangentially related, and the remaining 60 were not related. This discrepancy shows the difficulty in conducting this type of literature review without previous experience.

This pilot project was an edifying experience and helped to inform the researcher about some of the challenges facing conducting a literature review in a different language. The researcher was aided by the existence of databases dedicated to Spanish language sources, but these are by no means exhaustive, nor do they often yield relevant results, when using specific key terms. The researcher was unable to find many of the firsthand accounts in Quechua that would have been excellent in supporting or refuting some of the stories that have cropped up in the public consciousness.

Directions for Future Research

This poster was helpful in permitting the researcher to gain experience with conducting a literature review in a language other than English. One angle of future exploration is to ascertain the importance of other Latin American disasters in the literature. Possible candidates for these include the 1999 Vargas Flood in Venezuela as well as the 1944 San Juan Earthquake in Argentina.

Another area for future research along these lines would involve the researcher shifting to conduct a literature review of French language and English language sources of disaster literature along parallel lines. In this case of a spiritual follow-up, the researcher would be most inclined to explore a case study from the Francophone countries of Africa.

A future exploration could involve a major disaster in the Francophone world, particularly in the French speaking parts of Africa. One example of a significant disaster that ought to have significant sources in the French language literature would be the 1960 Agadir Earthquake which affected Morocco, which is particularly relevant now given the smaller scale devastation of the 2023 Marrakesh Earthquake in the same country decades later. A preliminary study has not found as many French language databases currently available to the researcher. A study of this or other similar hazard events would improve the researcher's familiarity with another part of the world as well as academic proficiency in another major language.