

Solastalgia: Living with the Environmental Damage Caused By Natural Disasters

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Abstract

Forced separation from one's home may trigger emotional distress. People who remain in their homes may experience emotional distress due to living in a severely damaged environment. These people experience a type of 'homesickness' similar to nostalgia because the land around them no longer resembles the home they knew and loved. What they lack is solace or comfort from their home; they long for the home environment to be the way it was before. "Solastalgia" is a term created to describe feelings which arise in people when an environment changes so much that it negatively affects an individual's quality of life. Such changed environments may include drought-stricken areas and open-cut mines. The aim of this article is to describe how solastalgia, originally conceptualized as the result of man-made environmental change, can be similarly applied to the survivors of natural disasters. Using volcanic eruptions as a case example, the authors argue that people who experience a natural disaster are likely to suffer from solastalgia for a number of reasons, which may include the loss of housing, livestock and farmland, and the ongoing danger of living in a disaster-prone area. These losses and fears challenge people's established sense of place and identity and can lead to feelings of helplessness and depression.

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Introduction

The world in which we live is being damaged and changed continually. Mining, climate change, and natural disasters can change the landscape, sometimes irrevocably. The damage can have lasting effects on the people living in these changed environments. Ecological changes can lead to the loss of lives, livelihoods and homes, and may lead people to become concerned for their future.

In 2002, Albrecht created the term solastalgia to describe the feelings of distress and anger experienced by people who had lost their solace and place attachment toward their home and territory because of environmental degradation.¹ A damaged home environment causes distress for the inhabitants of the area regardless of the cause of the damage² resulting in distress, anger, sadness, and discomfort. Albrecht proposed that that this experience be termed "solastalgia."²

To date, the "solastalgia theory" has not been applied to studies about the impact of natural disasters on survivors. It has been argued that man-made disasters (particularly intentional man-made disasters such as mining land degradation), are likely to produce more adverse effects than natural disasters.³ The authors argue that it is possible for natural disasters to decimate the environment in a similar way, thus causing a great level of distress among survivors. It is a well-known fact that volcanic eruption has a long lasting and global impact on the environment.⁴⁻⁷ To illustrate the point that surviving a natural disaster can lead to the development of solastalgia, the large-scale land destruction caused by volcanic eruptions is described, and the effects this had on people evacuated from the area and those who return to live in a threatening and damaged environment are considered.

Historical and contemporary documentation on natural disasters such as volcanoes, floods, cyclones, and tsunamis indicates the severe extent to which these events degrade the environment and endanger human life. Previous research on natural disasters such as floods,⁸ volcanoes,^{4,9,10} tsunamis,¹¹ and hurricanes,¹² demonstrates how these events are directly linked to negative environmental changes. Each of these natural disaster types has

the potential for great impact on the local community and may result in multiple losses of life, property, and environmental quality.

Solastalgia and Nostalgia

Solastalgia is different from nostalgia. Solastalgia originates from the concept of “*solacium*” (solace) and the word “*algos*.”^{1,2,13} This terminology includes two concepts: “solace” (comfort) and “desolation” (connected to neglect and lonesomeness). The meaning of the syllogism, solastalgia, is two-fold: it relates to the pain caused by the loss of solace and the feeling of being isolated from the house and environment in which one usually lives.^{1,2,13,14} In other words, people mourn because their houses and surroundings no longer provide comfort and support and their livelihood is threatened. Solastalgia results in regret and wonder about why the environment that used to give them such beautiful memories and safety has changed, and leads to longing for a return to the way things were before the environment changed.

Albrecht stresses that solastalgia is not only about remembering the past or wanting to go back to the place called home, but is also a life experience of losing the present which manifests in pain (dislocation) or feeling of being attacked by a force that eliminates the possibility of peacefulness.^{1,14} One feels the anguish when watching the damage caused and realizes that the environment has changed extensively.¹³ For example, people who witness what used to be a dense forest become bare and turned into houses, a river that is no longer clean due to waste pollution, or a tsunami that destroys everything in its path will experience similar feelings. Negative transformation of ecosystems might challenge people’s sense of identity, belonging and control, resulting in misery, mournfulness, and hopelessness when they realize that the places they lived in and loved are physically scarred and changed forever.

Solastalgia is the opposite of nostalgia. The term nostalgia comes from the word “*nostos*” (back to the origin) and “*algia*” (pain). It describes how a person or a group of people have the urge to go back to their hometowns or feel melancholy about missing old times (home-sickness).^{1,2,13,14} Nostalgia exists among refugees of war, native people who are forcibly evacuated (displaced) from their land¹⁵ or soldiers who are involved in war.^{15,16} The term nostalgia is no longer used exclusively to represent someone’s feeling of wanting to go back to his or her hometown; it also describes the feeling of being related to, or bonded with, a house and a past.² Casey mentions that nostalgia, contrary to what we usually imagine, “is not merely a matter of regret for lost times; it is also a pining for lost places, for places we have once been in yet can no longer re-enter”.¹⁵

To summarize, the term solastalgia describes a profound homesickness suffered by people who remain in their territories or homes, although they are now unrecognizable as a result of damage to the environment.

Previous Research on Solastalgia

Research about solastalgia has been conducted in mining areas of the Upper Hunter and drought-affected areas of New South Wales, Australia.^{2,14,17} These researchers described the phenomenon they termed “solastalgia” among farmers who experienced drought and among people living near open-cut mines. These two studies found that degradation of the environment in which a person lived caused distress, which they termed

“environmental distress”. Research undertaken in the Upper Hunter mining area concluded that people who lived there felt distress as a result of environmental pollution. Some of the side effects of the negative ecological transformation (place pathology) included respiratory infections, weight loss, increasing rates of infant mortality, birth defects, and cancer, all of which could have been exacerbated by mining pollution.^{1,2,13,14} Participants’ peace was interrupted by machine noise and they deplored the fact that a beautiful place had become a landscape of bare rock and soil. There was a sense of helplessness because residents felt trapped in the damaged environment, partly because of the reduced demand for houses. Participants were concerned that even if they did want to move, no one would want to buy their houses.¹⁴

Albrecht’s study focused on farmers whose land was affected by climate changed-related drought in New South Wales. The negative transformation of the environment made farmers feel like they had lost the land and their livelihoods forever, which resulted in negative emotional effects. The farm was their life, livelihood, and home. Participants felt aggravated and angry because their traditional roles as keepers of the land were limited or inhibited.² It can be concluded from these studies that both communities suffered emotionally from the degradation of their environment. Environmental change disrupted the physical and mental health and wellbeing of their members, and diminished their sense of place and identity. Both communities expressed high-levels of environmental distress.^{1,2,13} Higginbotham et al¹⁸ further expand the concept of environmental distress, dividing it into four steps:

- individuals perceive environmental change events in terms of frequency and/or intensity;
- change is appraised as benign (and not considered further) or seen as potentially threatening to the wellbeing of oneself or others;
- individuals experience the impact of the environmental change, including physical symptoms and emotional reactions (fear, anger), social and economic disturbance and, potentially, the psychological response of “solastalgia”; and
- appraisal of threat and its impact leads to some form of action to resolve, control, or adapt to the changes.

Report: Solastalgia as a Proposed Outcome of Volcanic Eruptions

A volcanic eruption is an example of a natural disaster where there is widespread damage from a local to a global scale.⁶ Since the 1900s, there have been more than 500 volcanic eruptions around the world, resulting in the death of more than six million people.¹⁹ The increasing number of people who settle in a volcano flank region correlates with increasing numbers of victims should the volcano erupt violently and with little warning.^{7,19} People who live in areas surrounding a volcano may suffer from primary and secondary hazards of eruption. Primary hazards of eruption include materials ejected by the volcano. The ejection of materials from a volcano may persist for months after an initial eruption, while secondary hazards such as mudflow, soil and water contamination, environmental and climate change may appear long after the initial volcano eruption, and may endure for years or decades.²⁰ These hazards can create a secondary disaster situation that further endangers survivors’ lives.

Although the victims of volcanic eruptions make up only two percent of all victims of natural disasters,²¹ the effects of environmental degradation experienced by survivors of volcanic eruptions can be severe and long lasting.^{7,20} It may take some time for survivors' lives to return to normality because they must wait until the environment regenerates so that they can rebuild their houses and farms.²⁰ As a result, it is possible that survivors of a volcanic eruption are likely to experience solastalgia, which affects their lives in the following ways. The first impact is the sudden realization that their peaceful mountain home is now a hostile place to live. Eruption material from volcanoes, such as tephra falls, pyroclastic flows, lahars and lava flows, can kill and injure living creatures and destroy buildings within minutes. Thermal, mechanical, and chemical injuries may also result from these materials dispersing through villages and fields.⁷ Severe and large-burn injury, respiratory disturbance, and blunt trauma injuries are identified as the most common causes of death from volcanic eruptions. After a volcanic eruption, other hazards such as emissions and gasses also can endanger the lives of humans and other creatures.^{5,7} People can suffer from respiratory diseases such as asthma, bronchitis, and silicosis from volcanic ash since the air they now breathe is filled with dust and sand, which affects their noses and throats. Lung cancer risk may increase due to radon exposure. Hydrogen sulfide and hydrogen fluoride gasses released during volcanic eruptions also are known to be lethal to animals.^{5,22,23}

Survivors of volcanic eruptions may experience multiple losses, including deaths of family and friends, injuries, or burns. They also may lose property and sources of food and income such as rice fields and cattle. These losses can lead to psychological symptoms and problems such as depression, posttraumatic stress disorder (PTSD), substance abuse, and other mental health illnesses due to the eruption.²⁴⁻²⁶ Further, as the disaster forces people to leave their homes, the sudden relocation can cause feelings of anxiety, grief, and loss. Loss of place or home after a disaster is traumatic for survivors and can cause significant and prolonged psychological effects.²⁷ The loss of and severe damage to houses has been associated with a higher risk of PTSD and depression in volcanic survivors²⁵; tsunami survivors²⁸ and earthquake survivors.²⁹⁻³¹ A home often is seen as an individual or family investment that symbolizes unity and security. Personal memorabilia is contained within the family home and most people will assert that their homes are their castles or heavens, regardless of the condition of the house.²⁷ Therefore, losing a house can be extremely painful and can be a stressor for survivors who might fear its loss in a secondary disaster, following an initial volcanic eruption.³

Place attachment is a form of bonding with home or place. Place attachment will lead people to behave in certain ways to maintain the feeling of connection with home or place. This form of bonding might arise from the protection a home gives or from the life satisfaction and sense of achievement it represents.³² People who continue to live in their homes under the mountain

can lose their place attachment after a volcanic eruption since they know the imminent natural disaster can put them in danger. As a result, individuals may feel that the land that they live on does not provide protection for them any longer. Higginbotham's theory of environmental distress posits a correlation between sense of place and solastalgia; people who have a strong sense of place have deeper feelings of solastalgia when their lifestyle is interrupted by unexpected forces.¹⁸ For example, Albrecht et al² describe how farmers affected by drought experienced distress because they believed drought had robbed them of their livelihood, their sense of community, and their legacy to their children.

Discussion

The Relevance of Solastalgia

Volcano survivors' mental health will be put at risk by the loss or potential loss of place, identity, and comfort. After a disaster, survivors might suffer from the complicated grief of multiple losses; solastalgia compounds this negative experience and survivors' quality of life is diminished. People in such situations may believe there is nothing they can do to overcome their problems, triggering feelings of hopelessness and powerlessness, and leading to depression. Depression occurs from the profound sorrow survivors experience as they struggle to retain hope and meaning in the face of loss. Japanese studies have shown that people affected by natural disasters had an increased likelihood of developing PTSD and depressive symptoms if their homes were destroyed or badly damaged.²⁵

Implications for Health Professionals

Solastalgia is a new concept. Health professionals need to be aware of the potential distress caused by solastalgia so they can develop strategies to support and aid people who are severely impacted by environmental damage. Understanding the potential for solastalgia allows development and implementation of early intervention that may help to ameliorate the distress caused by solastalgia and restore the ecosystem more quickly.¹⁸

Conclusion

Because of the strong link between environmental damage and human distress, the authors argue that solastalgia can be applied to natural disasters such as volcanic eruptions. The term "solastalgia" originally was used to describe a condition experienced by survivors of mining and drought. This concept is espoused as a useful way to theorize the distress resulting from natural disasters. It has been argued that solastalgia can be triggered by the loss of home or livelihood, which, in turn, challenges an individual's sense of place and identity. Living with solastalgia increases survivors' risk of suffering from a mental illness such as depression, which adds to their burden after a disaster. Therefore, action is required to prevent and overcome this issue, particularly in communities recovering from natural disasters.

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