

Seven Dimensions of Soil: Understanding and Teaching Human-Soil Relations in Movies

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Purpose

Sustaining soil requires that people think about it differently. Existing cultural values are expressed in, maintained, and shaped by media discourses such as movies and video. Film is the most widely circulated discourse in global society, and expresses cultural attitudes and values – the **human dimension** of environmental knowledge. By understanding the dimensions of soil shown in films, scientists can design teaching, research, and public dialogue to stimulate better knowledge and practices of soil and sustainability.

Methods

To identify the diverse meanings of soil in film, a database of over 70 films was assembled, including historical and cross-cultural examples. These were analyzed for their **semiotics** or discourses of soil. Coding included type of soil interaction or process represented (e.g., agriculture, waste disposal, erosion); social actors involved; values and ethics expressed; soils, textures, and terminology described or depicted; and formal analysis of all film elements involved (dialogue, cinematography, location, use of color, lighting, and more).

Results

Coded features indicated seven dimensions of meaning or values of soil, as shown. This typology expands and refines previous limited analyses of meanings of soil in other discourse such as poetry (Trudgill 2006) and more general theories of environmental meanings and values (cf. Manfredo 2008).

Noteworthy results include the following observations:

- (1) A pronounced emphasis in US films on soil's agricultural function deemphasizes or even neglects other meanings, aside from westerns showing dust as a metaphor for transience, toughness, and fleeting value.
- (2) Many of the greatest filmmakers show the richest meanings and most complex relationships to soil.
- (3) Over time, increasing focus on the social stigma of "dirt" highlights unethical exploitation of both impoverished or disempowered peoples, and the environment.
- (4) Explicitly 'environmental' documentaries may, ironically, be the most affected by cultural biases, in highlighting a few aspects of concern but omitting others, especially soil. Compared to these, feature films that have no explicit environmental theme in mind are more accurate registers of broadly held cultural values.
- (5) The range of soil types, human-soil interactions, and cultural meanings seen in films is broad. Not only are they expressed through images, titles and dialogue, but also through depictions of touch, smell and taste. This phenomenologically complex experience of soil in films affords many further nuances for study.

Integrating Film in Science Teaching

Scientists are not customarily trained in semiotics and film analysis. Equally, however, the "two cultures" system has left humanities and even social science scholars, unless trained in **ecocriticism**, unfamiliar with scientific details that could foster effective interdisciplinary teaching of soils with a "human dimension." Fortunately, many clear, concise introductions to film study exist (though not for semiotics). The time is fertile for soil environmental scientists to work with colleagues, classes and the public to start bridging this gap; both popular and scholarly interdisciplinary work such as the forthcoming Landa and Feller 2009 may serve as a first guide.

In this poster, films are grouped under seven human or cultural dimensions of meaning, although alternative groupings by time period, country, length, genre, soil order, etc., are possible.

References

Landa, Edward R., and Christian Feller, eds. 2009. *Soil and Culture*. Springer.
Manfredo, Michael J. 2008. *Who Cares About Wildlife? Social Science Concepts for Exploring Human-Wildlife Relationships and Conservation Issues*. Springer.

Trudgill, Stephen. 2006. "Dirt Cheap – Cultural Constructs of Soil: A Challenge for Education about Soils?" *Journal Geog. in Higher Educ.* 30(1):7-14.

Keywords

Human dimensions of the environment is the study of individual, social and cultural attitudes toward the non-human environment. HD draws on methods and theory of sociology, anthropology and psychology as well as geography, philosophy, and other humanities. The goal is to use this understanding of diverse human-environment responses to foster more sustainable behaviors.

Semiotics draws on cognitive science and psychology, along with theories of meaning developed in linguistics, literature, philosophy and the arts, to examine how humans assign meaning and interpret the significance of symbols, objects, and human relationships.

Environmental discourse studies, ecocriticism, and media ecocriticism often use semiotic analysis to study the communication, representation, and alteration of values and attitudes toward nature through public discourses, writing, advertising, film, music, landscape design, etc., to discover how such discourse can better express sustainability.

Movies are multi-media and **multivalent**, embedding and eliciting multiple meanings in their sound, thought and imagery. This analysis identified both the main or most common meaning of soil for each film, as well as secondary meanings, and lists many under several salient dimensions. The tension between meanings often acts to highlight the dilemmas of human interaction with other people and the environment in a world of complexity and multiple concerns.

1 Home

Soil represents the place where family and community feel a sense of rootedness, where attachments are formed, and the most authentic self finds existence. Home is a moment or node in the fields of time and space; a place of "dwelling"; a center of meaning, activity, and care. As more films are made and distributed from countries not traditionally based in temperate-zone agriculture, it becomes clear that humans regard many soils as home, as is seen for the Kalahari bushmen in *The Gods Must Be Crazy*, who reside on arid and largely non-arable soils.

- *Earth (Zemlya)* (USSR, 1930, Dovzhenko) [photo 1]
- *Las Hurdes/Tierra Sin Pan (Land Without Bread)* (Spain, 1933, Luis Buñuel)
- *The Good Earth* (US, 1937, Sidney Franklin)
- *The Gods Must Be Crazy* (South Africa, 1980, Jamie Uys) [2]
- *The River* (US, 1984, Mark Rydell)
- *Daughters of the Dust* (US, 1991, Julie Dash) (also themes 1, 6) [3]
- *Antonia's Line* (Holland, 1995, Marlene Gorris) [4]
- *Broken English* (NZ, 1996, Gregor Nicholas)
- *Earth (India/Canada, 1998, Deepa Mehta)*
- *Dracula*, various versions



2 Identity

Engagement with soil often enacts and expresses social identity. Social identities include ethnicity, nationality, class, gender, and family or family line. Identities formed through interaction with soil may be performed by "conquering" (e.g., dirt biking, kicking up a dust) or through collaborative work with, on or in soil (e.g., gardening, ceramic art). In films from western cultures, males are associated with the recreational or rule-breaking meanings of soil, while female associations are more focused around social groups and aesthetic views of soil.

- *A Corner in Wheat* (US, 1909, D.W. Griffith) (also theme 3)
- *Places in the Heart* (US, 1984, Robert Benton) (also themes 1, 3) [5]
- *Daughters of the Dust* (US, 1991, Julie Dash) (also themes 1, 6)
- *Dirty Harry* (US, 1971, Don Siegel) [6]
- *Joe Dirt* (US, 2001, Dennie Gordon)
- *The Dukes of Hazzard* [movie] (US, 2005, Jay Chandrasekhar)
- Innumerable dirt bike and cross-country car racing films [7]
- *The Real Dirt on Farmer John* (US, 2005, Taggart Siegel) (also themes 1, 6) [8]



3 Power / Control

Individual or national autonomy and privilege are affirmed by the instrumental use of soil as "land" and property to grow commodities, to stage wars – and also genocides, often justified by demands for soil against peoples described as dirt. But soil fosters the virtuous citizen of Jefferson's dream as well. Many US "farm films" view soil as essential to this independent yeomanry, and show under threat – from big business in the early 1900s, then ecological disasters like the dust bowl, then market forces again, now combined with population erosion and further ecological imbalance. The answer in most films is the application of more power, or new forms of control. Pare Lorentz's famous *Plow and River* films extol national power to heal the scars of market greed and its impact on nature. "National soil" expands this private discourse to the state actor. Here again, many films focused on "native soil" construe that as farmland, a discourse of wealth and power that science readily abets. *Chinatown* details the dangerous results when government and private power are combined in land development. *Jean de Florette* illustrates the contrasting modes of "scientific" farming, traditional knowledge, and a straightforward market mentality.

Films often place themes 1 and 3 in conflict, such as when a person values their home (theme 1), but through economic acquisitiveness expends or destroys it (theme 3). *Gone with the Wind*, *Jean de Florette* and *Manon of the Springs* show fatally conflicting views of the meaning of soil: as economic instrument for wealth, as mode of family solidarity and perpetuity, and as scientifically (and aesthetically) nurtured rural utopia. These views of soil are generally articulated by men, with women objectified as the opposing or undermining forces of love, fate, and retribution. In *GWTH*, however, it is Scarlett who turns to exploiting the land that her father prized as his home.

- *The Plow That Broke The Plains* (US, 1936, Pare Lorentz; 2007 Criterion reissue) (also theme 4) [9]
- *The Spanish Earth* (Spain, 1937, Joris Ivens; narr. Ernest Hemingway)
- *The River* (US, 1938, Pare Lorentz; 2007 Criterion reissue) (also theme 4)
- *Gone with the Wind* (US, 1939, Victor Fleming) (also theme 1) [10]
- *Days of Heaven* (US, 1978, Terence Malick)
- *Chinatown* (US, 1974, Roman Polanski) (also theme 4) [11]
- *Jean de Florette* and *Manon des Sources* (France, 1986, Claude Berri)

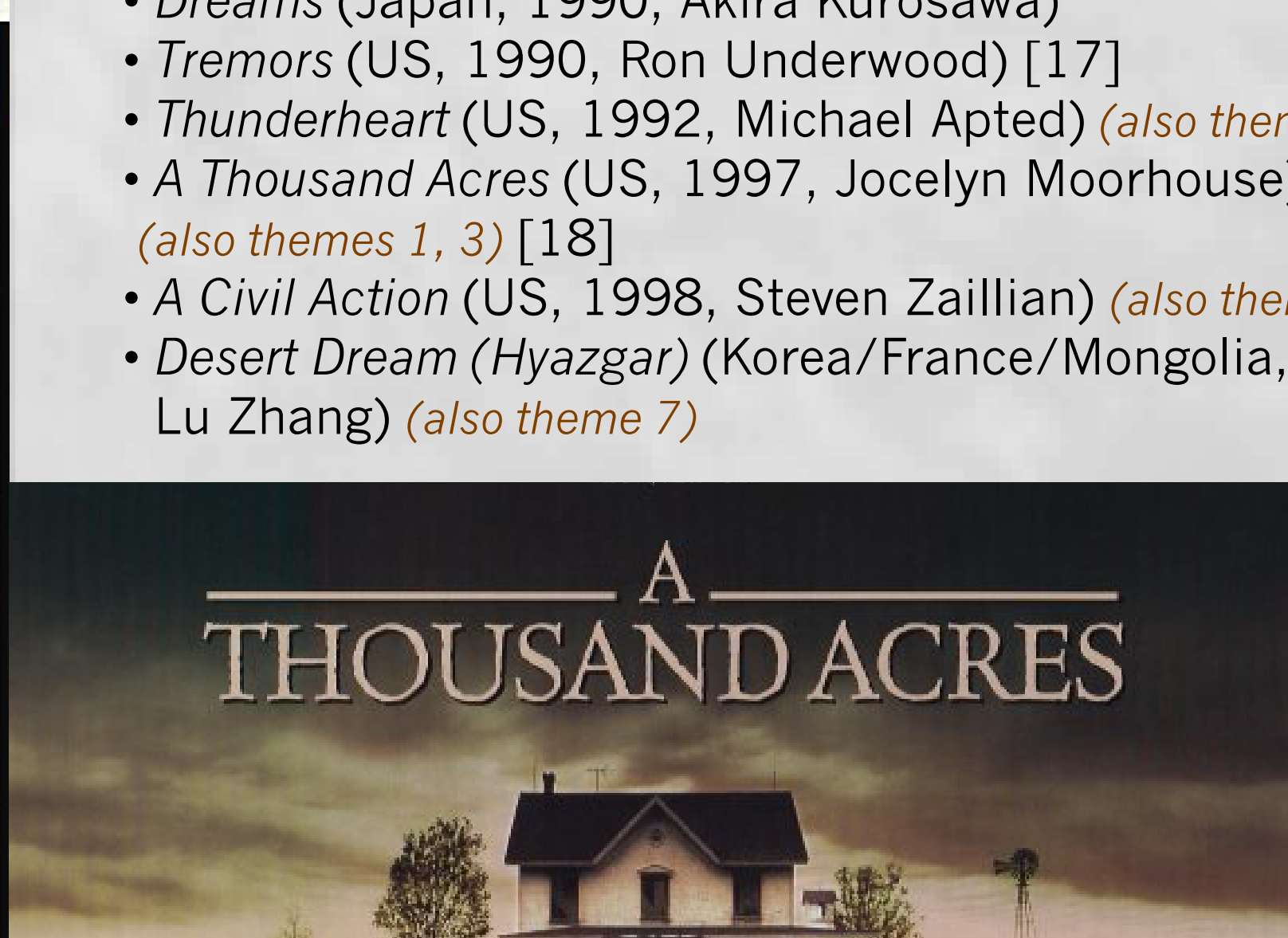


4 Risk / Dangerous Natures

This dimension traces the suspicion of soil as a threat, through: (a) land movement swallowing up humans and civilization in a Dust Bowl, mudslides, quicksand or creeping deserts; (b) monstrous creatures that "come from below" to wreak havoc and horror (*Them!*; *Tremors*); or (c) subsurface contamination, human-caused or not. Cthonic horror has cognitive and physical aspects: as large, vertically oriented, air-breathers we are "surface chauvinists," uncomfortable with the microscopic, wet, alien, swarming world below. *The Golem* is this dangerous earth personified, an unnatural creature made from clay. "Toxic discourses" combine the threat of pollution (*A Thousand Acres*, *Thunderheart*) with earlier fears of the cthonic into complex technophobias (*Koyanisqaatsi*, *Red Desert*).

Forward projections include apocalyptic planets of sterile soil (*Dreams: Dune*). Smaller regions or incidents of dust and loose dirt, seen in countless westerns (*Shane*, *Fistful of Dollars*), localize the nihilism and affix its meaning to single characters, landscapes, or towns. Dangerous human passions may also be equated to tropical dust, mud, or other extreme conditions (*Red Dust*, 1932; *Woman in the Dunes*; *Heat and Dust*).

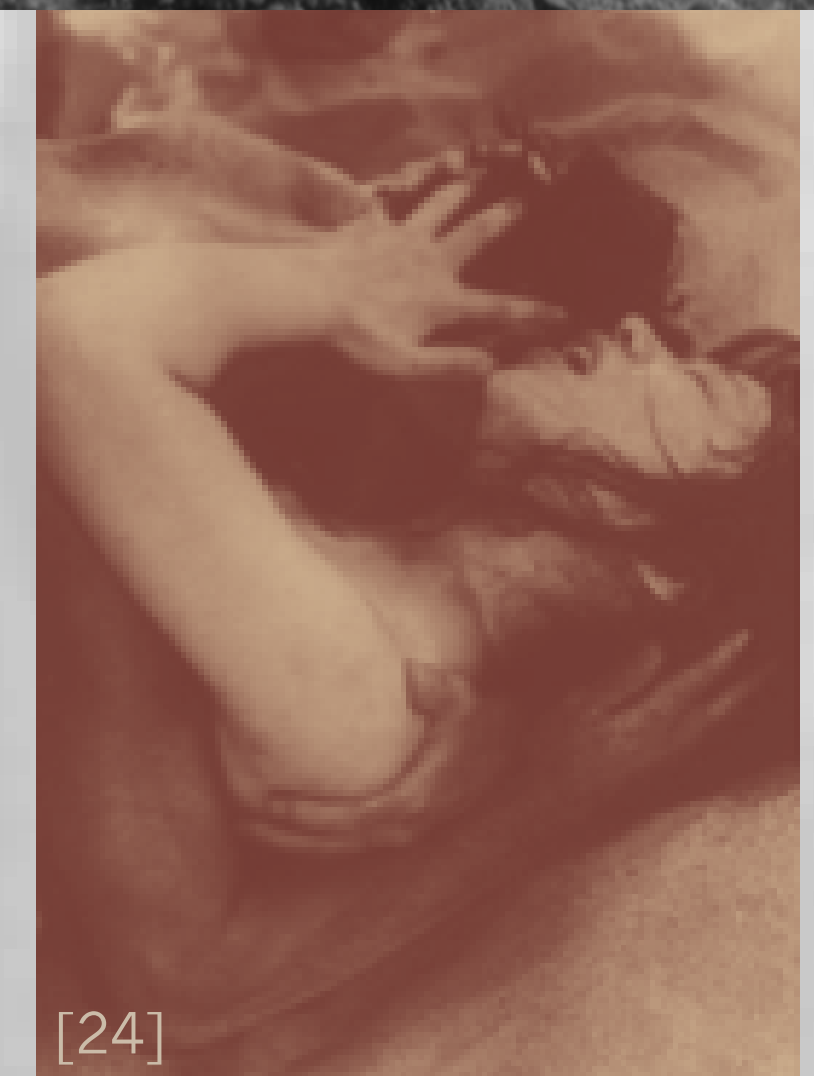
- *The Golem* (Germany, 1920, Paul Wegener; multiple soundtracks) (also themes 5, 7) [12]
- *Red Dust* (US, 1932, Victor Fleming) (also theme 5) [13]
- *Dracula* (various versions) (also theme 1)
- *The Plow That Broke The Plains* (US, 1936, Pare Lorentz; 2007 Criterion reissue) (also theme 3)
- *Shane* (US, 1953, George Stevens) [14]
- *Them!* (US, 1954, Gordon Douglas) [15]
- *Red Desert / Il Deserto Rosso* (Italy, 1964, Michelangelo Antonioni) (also theme 7) [16]
- *McCabe & Mrs. Miller* (US, 1971, Robert Altman)
- *Koyanisqaatsi* (US, 1982, Godfrey Reggio) (also theme 7)
- *Blade Runner* (US, 1982, Ridley Scott)
- *Heat and Dust* (UK, 1983, James Ivory)
- *Dune* (US, 1984, David Lynch) (also themes 1, 7)
- *Dreams* (Japan, 1990, Akira Kurosawa)
- *Tremors* (US, 1990, Ron Underwood) [17]
- *Thunderheart* (US, 1992, Michael Apted) (also themes 6, 7)
- *A Thousand Acres* (US, 1997, Jocelyn Moorhouse) (also themes 1, 3) [18]
- *A Civil Action* (US, 1998, Steven Zaillian) (also theme 1)
- *Desert Dream (Hyazgar)* (Korea/France/Mongolia, 2007, Lu Zhang) (also theme 7)



5 Social Others

Stigmatized groups indexically associated with soil or essentialized and devalORIZED as "dirt" include women, ethnic minority groups, people of color, domestic workers, and immigrants (legal and illegal). Stigmatizing qualities include poverty, rural origin, occupation, religion, sexual difference, and other values used to marginalize people from mainly white, industrial world norms.

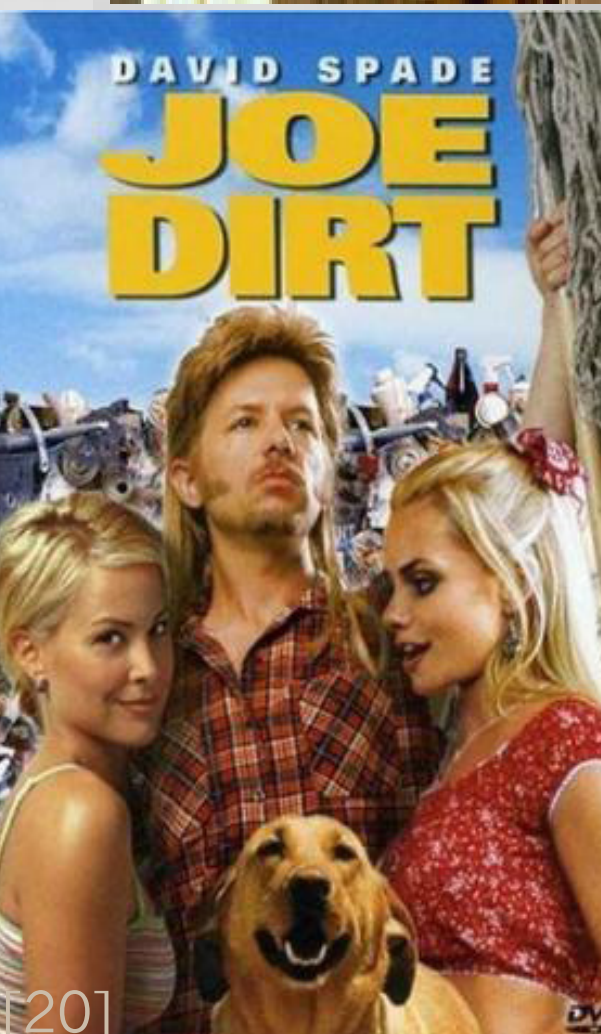
- *The River* (US, 1938, Pare Lorentz; 2007 Criterion reissue) (also theme 3)
- *The Land* (US, 1942, Robert Flaherty)
- *The Grapes of Wrath* (US, 1940, John Ford) (also themes 1, 3)
- *Shane* (US, 1953, George Stevens) (especially dust and mud; elsewhere fields and dirt/dust are also themes 1, 2)
- *Salt of the Earth* (US, 1954, Herbert J. Biberman)
- *Los Chircales* [The Brickmakers] (Colombia, 1972, Marta Rodriguez and Jorge Silva)
- *The Killing Fields* (US, 1984, Roland Joffé) (also theme 3)
- *Dirty Dancing* (US, 1987, Emile Ardolino)
- *Camille Claudel* (France, 1988, Bruno Nuytten) (also theme 7) [19]
- *Powaqqatsi* (US, 1988, Godfrey Reggio)
- *Red Dirt* (US, 2000, Tag Purvis)
- *Joe Dirt* (US, 2001, Dennie Gordon) [20]
- *Dirty Pretty Things* (UK, 2002, Stephen Frears) [21]
- *Dirt* (US, 2003, Nancy Savoca)



6 Stability / Security

As Trudgill (2006) shows, humans readily rely on the timeless stability of the earth as a bountiful assured home, and through inadequate knowledge of its timescales and processes, trust the soil to continue even through human upheaval (*Zemlya*) or indifference (*The Last Picture Show*; *Dr. Strangelove*). Soil affirms history; the past may be buried but can be dug up, as in *Red Dust*'s Truth & Reconciliation Commission work. Soil as history both hides and preserves the past, and thus germinates the seeds of the future or equally, of failure. *The Good Earth* equates the loyal, overburdened wife to the fruitful, but increasingly abused farmland, and argues that while both deserve more care, only exogenous forces can overthrow fixed tradition to make that possible.

- *Earth (Zemlya)* (USSR, 1930, Dovzhenko) (also theme 1)
- *The Good Earth* (US, 1937, Sidney Franklin) (also theme 1)
- *Dr. Strangelove* (UK, 1964, Stanley Kubrick)
- *The Last Picture Show* (US, 1971, Peter Bogdanovich)
- *Daughters of the Dust* (US, 1991, Julie Dash) (also themes 1, 2) [22]
- *Cold Mountain* (US, 2003, Antony Minghella)
- *Red Dust* (UK/South Africa, 2004, Tom Hooper)



7 Alterity

The estrangement of individuals from society, and humans from home and other beings, is poised like soil on the borderline between binaries. When acknowledged as both life-giver and decomposer, as the interface between the solid surface beneath us, and the opposing empty sky above, on which humans are forever poised ambiguously on the threshold, unable to join or eliminate either side (*Tierra*). Soil is a potent symbol of that liminal state, an existential ecotone, like humans a mingling of states that yet remain separate. Films may show alienation by displaced dirt and lost soil, a simple symbol for humanity's modern journey between the promised finality of power, and the reality of "messy problems." This 7th dimension of soil often includes conflict between 1 and 4, as well as the reversal of 6. The meditation on dirt in *The Man Who Wasn't There*, like the dust swirling in a Sergio Leone western, captures the crisis of a man caught between the never-fully-buried past and his never-fully-realized dreams.

Bagdad Café and *The Milagro Beanfield War*, however, recognize and accept an ecology that includes dust, dirt and disorder, from this diversity forming a resilient, hybrid social solidarity, a multi-species community. *The Burmese Harp* finds in soil a wellspring for eccentric renewal after war. Religion, diaspora, and women's experience may open the way to a paradigm shift in these films.

- *The Burmese Harp/Biruma no tategoto* (Japan, 1956, Kon Ichikawa) [23]
- *Il Grido* (Italy, 1957, Michelangelo Antonioni)
- *L'Aventura* (Italy, 1960, Michelangelo Antonioni)
- *Red Desert / Il Deserto Rosso* (Italy, 1964, Michelangelo Antonioni)
- *Woman in the Dunes* (Japan, 1964, Hiroshi Teshigahara) [24]
- *Fistful of Dollars* (Italy, 1964, Sergio Leone)
- *Zabriskie Point* (US, 1970, Michelangelo Antonioni)
- *Bagdad Café* [Out of Rosenheim] (Germany, 1987, Percy Adlon) [25]
- *The Milagro Beanfield War* (US, 1988, Robert Redford) [26]
- *Tierra* (Spain, 1996, Julio Medem) [27]
- *The Man Who Wasn't There* (US, 2001, Joel Coen)
- *Casa de Areia* [House of Sand] (Brazil, 2005, Andrucha Waddington)
- *Dirt!* The Movie (US, 2009, Bill Benenson, Gene Rosow)



About the Author

Claudia Pine studies soil science in an interdisciplinary PhD program in Environmental Science. She combines this with her master's in anthropology and more than 15 years work in environmental anthropology and archaeology for dissertation research on discourses of soil. Her teaching, research and outreach includes environmental philosophy and ethics, campus sustainability, environmental communication, sustainable food and farming, and environment in film, religion, and popular culture. She is currently completing this and other cultural analyses of soil for her dissertation, and hopes to follow up with teaching and discussion guides for the human dimensions of soil in film, religion, and health sciences that are examined in her dissertation.