



The evolution of fear: cultural change in cinema horror types

Simone Sarti

simone.sarti@unimi.it

Department of Social and Political Sciences | University of Milan

Massimo Airoidi

massimo.airoidi@unimi.it

Department of Social and Political Sciences | University of Milan

Federico Boni

federico.boni@unimi.it

Department of Social and Political Sciences | University of Milan

Abstract

The evolution of fear: cultural change in cinema horror types

This study explores the cultural evolution of fear as depicted in horror movies within the framework of the sociology of emotions. By analyzing horror movies as collective narratives of fear, the research aims to trace changes in societal anxieties over time. Using keywords associated with horror films from the IMDb, the study identifies shifts in the portrayal of fears and monsters in cinema, reflecting broader social dynamics and cultural transformations. The study employs multivariate analysis techniques to identify distinctive keywords and interpret the implicit meanings embedded within them. Grounded in a multidimensional approach, it acknowledges the complex interplay between individual psychological processes, social environments, and larger cultural trends in shaping emotions and societal responses to fear. The findings reveal four distinct periods in horror cinema, each linked to different cultural milieus and shaped by the societal anxieties of their respective eras.

Keywords

Fear | Cinema | Horror movies | Cultural change | Sociology of emotions



We make up horrors to help us cope with the real ones.

Stephen King (1981)

Horror is not a genre. It is an emotion.

John Carpenter (2011)

1. Introduction: the sociology of emotions frame

For a long time, the classical model of homo economicus, originally designed in the nineteenth century to explain social action, has become obsolete in the field of social sciences. The idea of perfect rationality has been replaced by a bio-cultural model of action where preferences, choices, behaviors, and habits are seen as complex outcomes of continuous interaction between emotional and cognitive states of mind. Therefore, understanding human social behavior is inherently limited without a reflection on how social structure and cultural imaginaries – often conveyed by media and marketing (Illouz, 2009; Codeluppi, 2013) – shape emotions.

This perspective assigns an important heuristic role to the study of cultural changes in the realm of emotions. For several decades, there has been a promising debate in the sociology of emotions, focusing on the relevance of emotions (fear, trust, shame, etc.) in shaping social action (Bericat, 2015). At the end of the 19th century, Durkheim speculated that emotions are the glue that holds society together (Collins, 1990: 27). Over time, many scholars have emphasized the importance of researching the relationships between emotions and social structure as an essential tool for understanding social change (Barbelet, 2002; Turner, 2009; 2000; Gordon, 1990; Randall Collins, 1984; Hochschild, 1979; Kemper, 1978). Von Scheve and Von Luede (2005) took these efforts further, highlighting the need for sociology to adopt an interdisciplinary approach to the study of emotions. These authors proposed three different levels of abstraction in the study of the social structure of emotions: the micro-level (the shaping of emotions at the individual psychological level), the meso-level (the role of the social environment in emotions), and the macro-level (focusing on social structure dynamics, i.e., top-down conditioning).

This categorization is important here because this study will focus on the macro-level dimension, examining transformations in social structure by looking at changes in the cultural expressions of fear.

Regarding emotions, psychologists identify a primordial set of instinctual emotions, among which fear is a basic emotion tied to ancestral evolutionary instincts. Following Ohman's definition: "Fear is an intense, unpleasant emotional reaction to perceived danger" (see also Treisman, 2011: 710). Evolutionary psychology considers fear as one of the biological mechanisms adapted over millions of years to ensure survival and reproduction. Fear prepares organisms to escape or fight, improving psychophysical performance. Specifically, when a human perceives



fear, neurophysiological processes and biological responses are activated, such as an increase in heart rate associated with amygdala activity (Rodrigues *et al.*, 2009).

Other scholars emphasize the concept of anxiety (Ohman, 2008; Bourke, 2003; Riezler, 1944), which is a vaguer sense of fear: being in a state of apprehension without a concrete danger. Anxiety can reveal deep-seated fear not immediately present, albeit in a more indirect but equally significant manner. Anxiety is more indefinite, yet it can prepare individuals for intense fear. In epidemiological terms, anxiety could be viewed as a condition of stress, a risk factor for fear. Anxiety may predispose individuals to experience more intense fear (Treisman, 2011).

As mentioned earlier, emotional instincts are mediated by cognitive processes, and this systemic interaction is shaped by socialization processes that occur throughout life, especially in the early stages. According to this perspective, this study focuses on fearfulness, investigating what reveals fear. It is essential to trace the relationships between social structure and emotions and between culture and feelings (Tudor, 2003; Hill, 2021). Authors such as Beck (1992), Douglas (1992), or Giddens (1990) have already focused on the concept of risk, which implies fear of something or fear in general (Furedi, 2007; Riezler, 1944). Their theories emphasize the importance of constructing meaning in everyday life regarding things that produce fearfulness. Various media, including radio, TV, cinema, and the web, contribute to constructing meanings and generating narratives about social anxieties or concrete fears, such as the fear of physical aggression, war, foreign invasions, epidemic risks, terrorism, out-of-control technologies, environmental catastrophes, and so on. Fears can influence our behaviors, increasing the likelihood of some choices over others (Glassner, 2004).

For example, the fear of terrorism might lead us to use private vehicles instead of public transport, or the fear of invasions can influence the decision to vote for a political party with an anti-immigrant platform. According to Jeffreys (2012: 39), the culture of fear is:

Useful for thinking about the connections and contradictions that arise in the contemporary context of globalized communication and widespread political instabilities. In the global network society, fear is a connective tissue, a common experience that is alternatively vicarious, virtual, and distinctly material (Jeffreys, 2012: 39).

Moreover, Furedi (2007; 2018) argues that fear plays a central role in shaping twenty-first-century consciousness. Increasingly, we approach a wide range of issues through a fear-based narrative. This trend, which began to take shape in the previous century, often referred to as the "Age of Anxiety" (May 1950), as become more pronounced in recent decades as specific fears have been cultivated.

The emergence of terms like "politics of fear," "fear of crime," and "fear of the future" reflects fear's growing cultural significance. Many people interpret their experiences through the lens of fear. These narratives are not only limited to large-scale threats such as terrorism, global warming, AIDS, or potential flu pandemics; as many scholars note, fear also pervades everyday life in subtler ways (Hubbard, 2003).



Fearful narratives spread through the media, leaving their mark on ways of seeing the world.

Thus, our idea here is to describe social changes by identifying some cultural markers at the macro-level as indicators of fearfulness. Fears vary over time and across countries (Treisman, 2011). Therefore, the goal is to find empirical variables capable of intercepting these changes. What is considered scary changes over time, and these changes can reveal not only the macro-dynamics in the causes of anxiety in society but also, more broadly, what is changing in social structure and the cultural environment.

In this paper, we analyzed "the culture of fear" using the content of horror movies in cinema, one of the greatest emotion factories of modernity. Horror movies encompass collective fears, personal unease, psychological apprehensions, unpleasant feelings, social anxieties, monstrosities, frightening deviations, and other horrific elements that convey fearful narratives.

If we can track topics and contents in horror movies, we can indirectly study social change in one of the fundamental emotions: fear.

2. Data and methods: IMDb, keywords and genres

With the aim of describing the evolution of horror in cinema, we turned to the most famous web platform for storing metadata about audio-visual products, IMDb (Internet Movie Database: www.IMDb.com), owned by *Amazon.com*. The website freely provides the complete list of films produced since the beginning of the history of cinema. IMDb allows us access to general information such as the title, year of production, director, and actors, along with a classification into 28 different genres (with a maximum of three for each film), the average rating from 1 to 10 given by registered users (voluntarily expressed), and the number of votes. This constitutes a self-produced and collective collection of data (Salganik, 2019).

Referring to the period 1894-2017, and excluding short films (which are excluded from this study), there are 425,378 titles, of which 18,105, or 4.3%, are films belonging to the horror genre. Starting from this raw group, we applied different selections. A first selection concerns all the films without a rating. In fact, if a film does not receive at least 5 ratings, the rating does not appear. In these cases, where the films did not obtain at least 5 judgments, we considered the information to be unreliable given the marginality or poor circulation of the product. Moreover, the rating and the number of votes can respectively represent proxies of approval and popularity of a film, useful indicators for subsequent analyses. For example, *World War Z*, the 2013 movie about a global invasion of zombies, received 517,958 votes, with an average rating of 7.0, while the 1933 *King Kong* received 69,892 votes with a rating of 7.9. By applying this filter, the number of horror movies considered in the analysis decreases to 14,180.



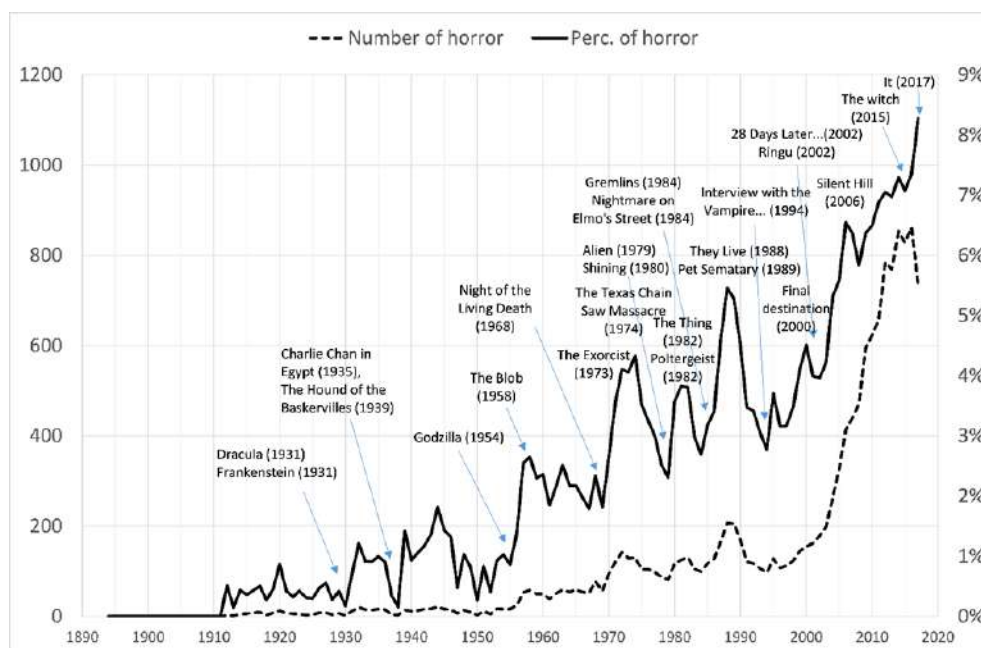


FIG. 1 – Number and percentage of horrors with at least 5 ratings, and the most popular horror movies on IMDb in some years: total horror movies 14,180; total movies 213,984 (Source: our elaborations on IMDb data).

The richness of IMDb content allowed us to assign a series of 'keywords' capable of intercepting the salient contents for most of the films. This enabled us to deepen the analysis of the evolution of horror in the history of cinema, identifying, for example, the films in which there was a reference to "Dracula", "Nosferatu", or to "vampires" in general. The keywords therefore serve as markers capable of providing empirical evidence of certain cultural content in precise historical contexts, akin to semantic fossils. They should be regarded as semantic imprints of the past that enable us to reconstruct the cultural evolutionary path of fear in our society. Our objective is to identify changes in how fears are represented in films as an indirect means of reconstructing cultural change overall. We aim to describe how there are quite evident and empirically observable periods of success of certain monsters and monstrous genres, associated with temporal contexts of significant social change.

It should be noted that it was not always possible to identify keywords for all the films considered, sometimes due to unavailable information, and other times because the topics did not align with any keywords selected as relevant for the analysis. At the end of the data collection, the horror movies with at least one keyword, among those we selected, numbered 8,887. One limitation of the collected data is that keywords, particularly for older films, were added by users after the movies' release. However, these keywords typically represent simple, short, and concise concepts or terms. Therefore, any overrepresentation of contemporary interpretation should be considered negligible.

To describe the evolution in social fear in horror movies, we proceeded in three steps. Firstly, we applied multivariate analysis of data reduction with the aim of identifying the most relevant discriminatory keywords and topics. We applied a Co-word analysis and a Multidimensional Scaling (MDS).

Co-word analysis is a text mining technique developed in the field of Science & Technology Studies with the purpose of tracking the evolution of scientific discourses (Callon *et al.*, 1991). More recently, it has been frequently applied to user-generated discourses in digital format (Caliandro & Gandini, 2017). A key advantage of co-word analysis lies in its relational character, that is, the possibility of counting “the co-occurrences of certain words and their varying strength of association, which is related to the number of times a given word co-occurs with another one in a certain textual unit as well as to the spatial proximity of words within a given text” (Caliandro & Gandini, 2017:59). As a result, co-word relations can be visually represented as networks (Venturini *et al.*, 2021).

MDS is a well-known statistical analysis technique (Houth *et al.*, 2013) in which the structure of the relationships between a series of variables is represented on a Cartesian plane starting from a dissimilarity matrix based on a precise metric (in our case the Chi-square). The points projected on the Cartesian plane, representing the subgenres, will be closer to each other the more films they have characters in common, and vice versa. They will be more distant from each other the more the monsters appear in different films.



3. Results of analysis

The first output presents the results of the co-word analysis, primarily exploratory in nature, utilizing raw keywords. Figure 2 displays keywords with at least 300 occurrences, allowing for the identification of clusters where keywords are strongly linked. In many cases, the keywords appear rather generic and difficult to semantically characterize. However, recognizable subnetworks are easily associated with specific and discriminatory topics.

At the top left, a group of keywords centred on "monster" and "creatures" can be identified, with a notable subnetwork comprising "mad scientists", "experiment", and "doctor". A prominent cluster is evident in the centre of the figure, uniting keywords such as "killer", "slasher", "serial", "psychopath", "murderer", "psycho", and "maniac". Towards the bottom left, there is a dense set of keywords referring to the sphere of eroticism and sexuality. Another semantically similar set appears just below, combining keywords like "supernatural", "ghost", and "haunt". Additional small clusters appear scattered throughout the figure, such as "student", "school", and "high school" at the top, or the pair "nightmare" and "dream" at the bottom.

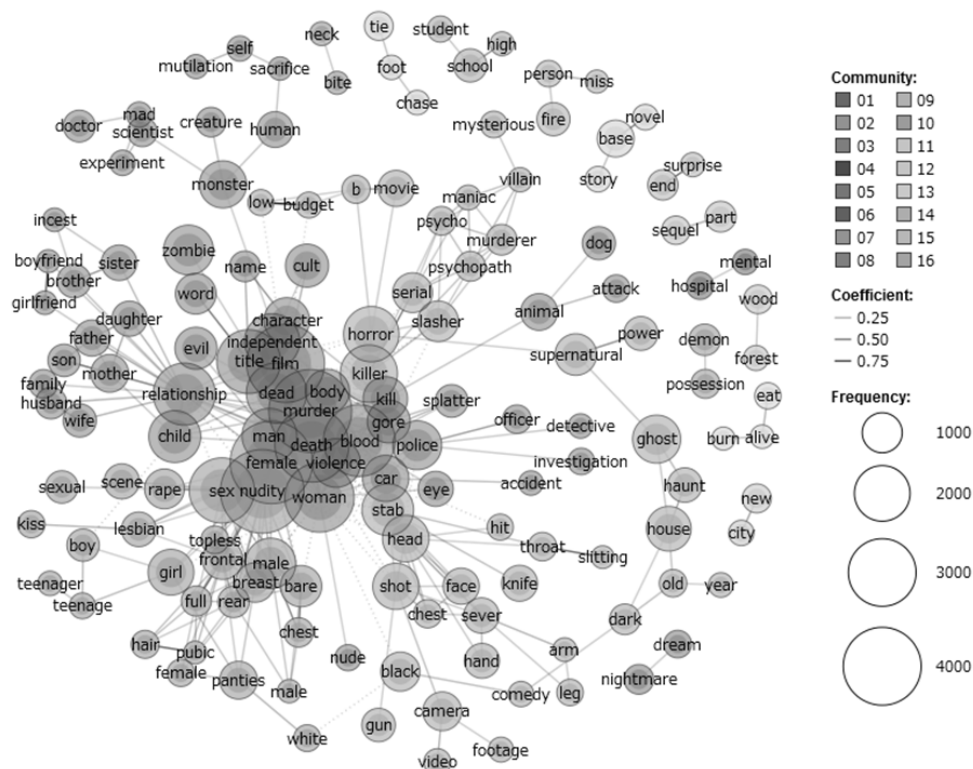


FIG. 2 – Keywords co-occurrence network, minimum term frequency = 300. Different colors indicate different clusters based on network modularity. Software: KH Coder 3 (Source: our elaborations on IMDb data).

Through a similar visual network analysis approach (Venturini *et al.*, 2021), we can intuitively present the keywords most associated with different time intervals as a bipartite word-variable network. The results shown in Figure 3 enrich the analysis by adding the time dimension. Despite a high degree of heterogeneity in the distribution of keywords, excluding the first period of cinema (1912-1949, when fewer movies were produced), it is possible to discern various periodizations:

- i) On the left side of the graph, from the 1950s to the 1960s (1950-59 at the top, and 1960-64 and 1965-69 at the bottom);
- ii) At the top, from the 1970s to the early 1980s (1970-74, 1975-79, and 1980-84);
- iii) At the bottom right, from the late 1980s to 2017.

The higher prominence of certain keywords can be interpreted as representing the content characterizing these periods, as these keywords are overrepresented. The first period is linked to keywords such as “doctor,” “mad,” “scientist,” and “police,” but also “vampire” and “monster.” Since there are fewer movies in this period, the keywords are somewhat scattered. The second and third periods are more

killer, mad scientist, maniac, mask, media (digital), media (traditional), monster, nightmare, police, puppet, religion, sorcerer, splatter, thriller, vampire, and zombie. Using multidimensional scaling analysis (ALSCAL technique), we established relationships among the subgenres of horror films. The analysis yielded a Cartesian plane (refer to Figure 3), where distinct semantic areas with different polarities were easily identifiable. Interpreting these areas allowed us to discern the most discriminant types of cinematic fears. In essence, the more isolated the subgenres, the more indicative they are of characterizing certain movies compared to others. Figure 3 illustrates several archetypal themes of horror films, including monsters, mad scientists, zombies, vampires, ghosts, evil entities, erotic content, killers, police, and maniacs. Towards the center, where non-discriminatory terms are located, we also find animals, aliens, sorcerers, religious themes, and nightmares.

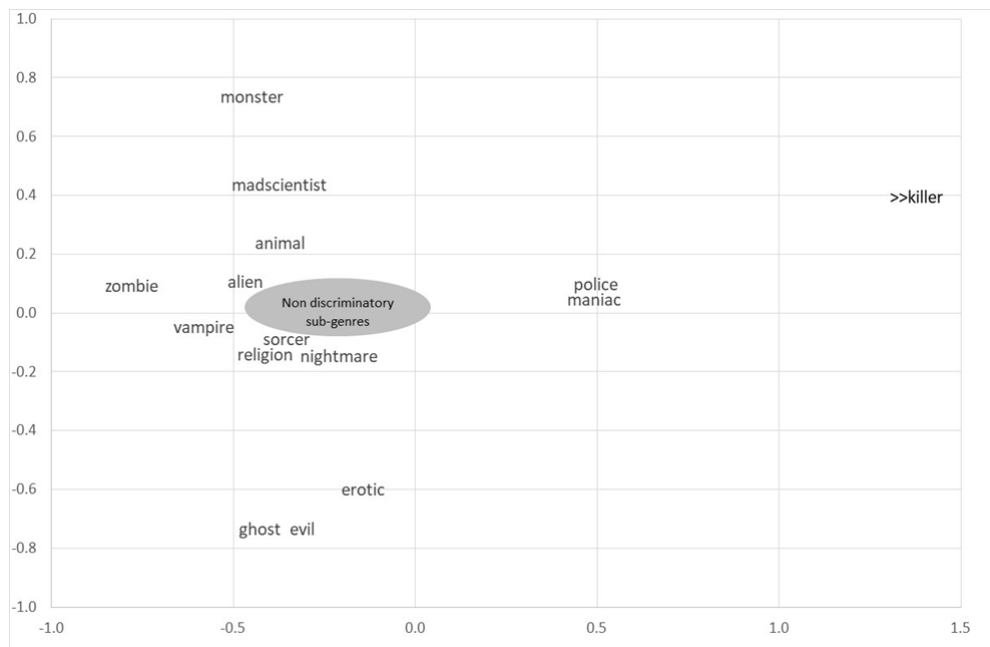


FIG. 4 – Multidimensional scaling of subgenres: Stress=0.070; RSQ=0.994 (Source: our elaborations on IMDb data).

Building on previous analyses, we have chosen to examine the cultural evolution of fear in horror movies by focusing on select subgenres, informed by exploratory analyses conducted using co-word occurrences and the ALSCAL technique. Due to space constraints, we will provide a detailed trend analysis only for the following subgenres which we found particularly salient: Monster, Mad Scientist, Zombie, Vampire, Ghost, Killer, Alien, and Erotic content. In our opinion, these subgenres are useful to mark the cultural change in social fear.

1.1 Monster

Monster subgenre contains keywords such as “monster”, “creature”, “freak”, “mutant”, and similar terms.

In the realm of horror cinema, particularly during the 1950s (and to a lesser extent the 1960s), monsters and creatures held an unparalleled allure for audiences worldwide. These heterogeneous, grotesque, and fantastical beings became the embodiment of fear, lurking in the shadows of collective imagination. During this golden age of horror, filmmakers unleashed numerous monsters upon the black and white screen, each one more terrifying and mesmerizing than the last. From the radioactive horrors born of nuclear paranoia to the ancient creatures awakened from their slumber, these monsters embodied the anxieties and societal fears of the post-war period, and of the new technologies (see below the sub-genre “Mad scientist”). In the midst of the Cold War, fears of atomic annihilation gave rise to towering giants like *Godzilla* (1954), who rampaged through cities with unstoppable fury, leaving destruction in its wake. Meanwhile, in the depths of space, extraterrestrial terrors descended upon unsuspecting Earthlings, embodying our deepest fears of the unknown and the Other. But it wasn't just the outer reaches of space that harbored monstrous entities (Cohen, 1996). Closer to home, ancient curses and forbidden rituals unleashed creatures of myth and legend upon unsuspecting villages and towns (like the mummy movies). From werewolves prowling beneath the light of the full moon to vampires stalking the shadows of Gothic castles, these creatures of the night evoked primal fears of the supernatural and the unknown (George & Hughes, 2013).

Yet, amidst the chaos and terror, these monsters held a strange fascination, reminding us of the thin veil between the known and the unknown. They captivated audiences with their otherworldly presence and sparked our fascination with the macabre. Whether it was the tragic situation of the misunderstood monster or the sheer terror of facing an unstoppable force of nature, these creatures served as reflections of the deepest fears, of things repellent and disgusting, but difficult to look away from, as well as uncontrolled desires (Muntean & Payne, 2009).

Monsters and creatures of horror cinema remain immortalized in our collective consciousness, not only as symbols of the worries and anxieties that lurk within us all but also as a way of managing and regulating grief from individual and collective tragedies. According to Millar and Lee, they may offer psychological benefits for the bereaved (Millar and Lee 2021). And though the era of 1950s and 1960s horror may have passed, the legacy of these monsters lives on, representing a “bass continuum” in the history of the Seventh Art, and continuing to haunt our consciousness and unconsciousness for subsequent generations, turning monsters into icons. As shown in Figure 4, it is worth noting that there is an increase in the presence of monsters in horror films in the Eighties.



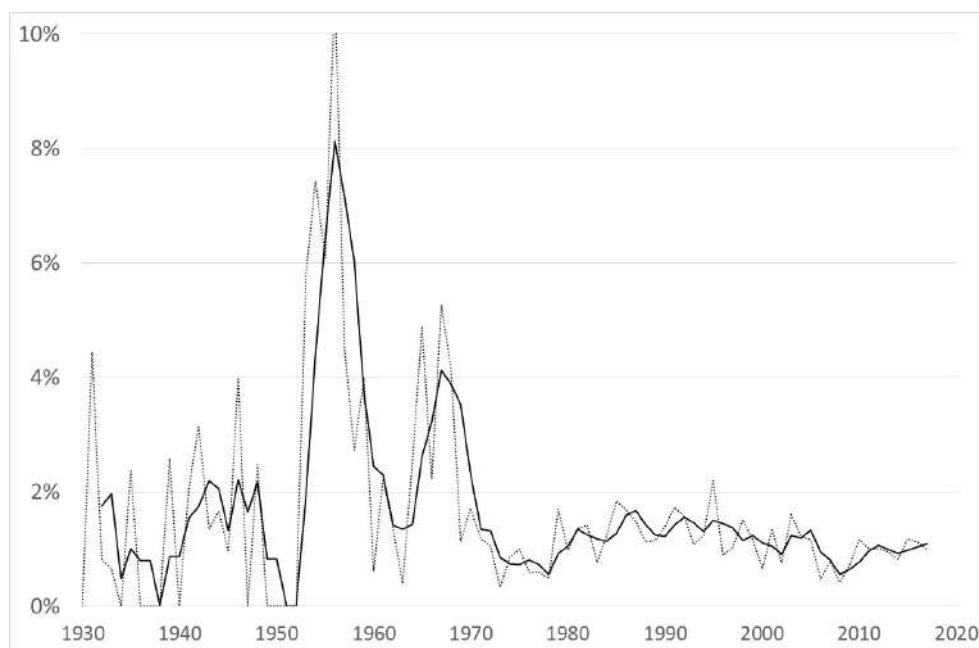


FIG. 5 – Percentage of films featuring content related to monsters, in bold the three-year smoothed average (Source: our elaborations on IMDb data).

3.2 Mad scientist

Mad scientist subgenre contains keywords such as “mad scientist”, “mad doctor”, “experiment”, “frankenstein”, and similar terms.

The mad scientists (or mad doctors) in cinematic horror is also an inherently modern monster, and it may be interpreted as a "industrial-capitalist monster". Their presence in horror films has been relatively consistent, especially since the World War II and post-war era, notably during significant periods such as the immediate post-war years (the 1950s). In particular, the mad doctors (or mad scientists) of recent years represent the gothic and demonic version of medicine as portrayed in American medical dramas in recent decades. These "mad scientists" embody society's anxieties and fears regarding an entire professional class – namely, doctors and scientists – which, especially in the United States (the source of the majority of films featuring this character), saw a resurgence in the second half of the 20th century. Some medical and scientific programs appeared to be inspired, if not in degree, at least in their characteristics, by the Nazi mad doctors (Poole 2011). Furthermore, the fundamental "Americanness" of this figure (making it another *American Horror Story*) is linked to its connection to American capitalism. The doctors in the tradition of American gothic are driven to madness in part because they believe they must work incessantly on their projects without respite, engaging in intellectual labor that involves selling their ideas to professional institutions.

To express their unprofessional side, they transform themselves into literal monsters. In a country like America, which has witnessed a progressive "proletarianization" of the medical-scientific profession, the mad doctor becomes a monster not because they deviate from their professionalism but precisely because they embody it, torn between delusions of grandeur and alienating work. In this divided state, they are monstrous not for departing from their professionalism but for personifying it.

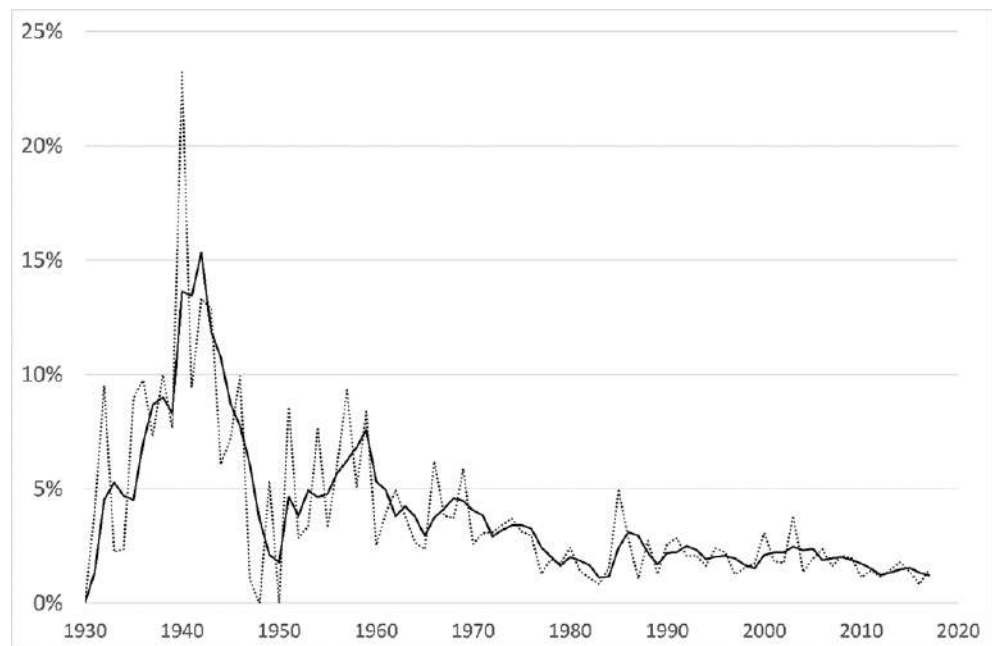


FIG. 6 – Percentage of films featuring content related to mad scientist, in bold the three-year smoothed average (Source: our elaborations on IMDb data).

3.3 Ghost

Ghost subgenre contains keywords such as "ghost", "spectre", "phantom", "haunted", "spirit", and similar terms.

The presence of the spectral in horror cinema is a constant that characterizes different epochs. Indeed, this observation should not come as a great surprise. In recent years, particularly for us, during the first decade of the new century, the concept of the specter has become the most suitable conceptual metaphor for observing, analyzing, understanding, and interpreting (or even, and equally importantly, acknowledging) phenomena of social and cultural repression. In this new "spectral" role, certain characteristics of ghosts and their possession – such as their liminal position between visibility and invisibility, life and death, materiality and immateriality – have become conceptual tools through which the human and social



sciences have begun to analyze a wide range of social, ethical, political, and cultural issues. This is what is referred to as the "spectral turn" (Weinstock 2004).

Taking a societal analysis from a "spectral" perspective does not mean believing in ghosts, but rather opening up to the metaphor of portions of the population (whether from the present or the past) that have been marginalized and thus annihilated. It does not involve processing the mourning of the "returning dead" (contributing to "normalize" it and silence it) but instead entails listening to and understanding their experiences and reasons. The "spectral" perspective presupposes not a ghostbuster, in which the ghost is deceitful or holds a secret that we must uncover by battling the ghost itself. Rather, it presupposes a ghost-whisperer, for whom the secret of the ghost is a productive opening of meaning, rather than a specific content to be discovered (Davis, 2007).

The subject of spectrality is that which returns and haunts like a ghost (which we may not even be entirely certain of recognizing), and in doing so, demands justice or at least a response. However, ghosts (and the haunted houses increasingly prevalent in recent years) do not merely whisper or seek some form of recognition; they act autonomously in terms of manipulating the living (often leading them to death). At the foundation of this autonomy lies a genuine relationality based on the voice or agency of the specter. Recognizing – and taking seriously – the "spectrality" of our society means opening up to the possibility of fresh interpretations of events from its past and present, offering "counter-narratives" that differ from those propagated by those in power who have the authority to "officially endorse versions of reality" (Goffman, 1983).

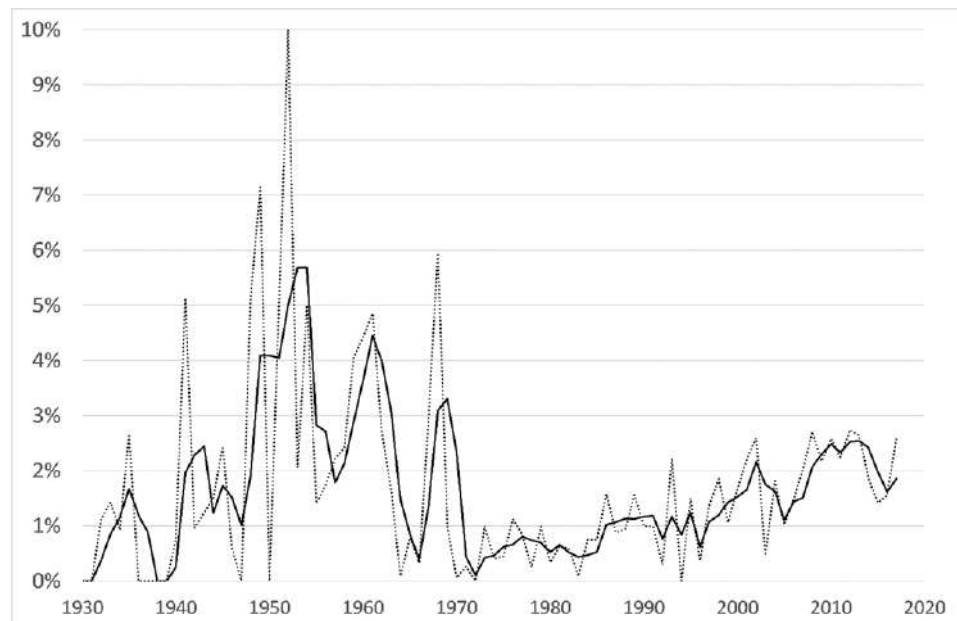


FIG. 7 – Percentage of films featuring content related to ghost subgenre, in bold the three-year smoothed average (Source: our elaborations on IMDb data).

3.4 Alien

Alien subgenre contains keywords such as "alien", "space", "invader", "invasion", "mars", and similar terms.

The theme of alien invasion also serves as a barometer for the anxieties and fears of society during certain historically defined moments. It is no coincidence that peaks in films centered around various alien monstrosities from other planets and worlds are concentrated in the post-World War II years and gained significant success from the 1980s, the era of President Ronald Reagan's Star Wars initiative. The Cold War was, cinematically speaking, a war fought largely with celluloid, not only by the United States but also by other countries.

The Cold War, with its fear of communism and the nightmare of atomic warfare, rekindled in America during the 1950s and 1960s the ancient fear of invasion of the home and the nation. The metaphor of the threat from deep space was particularly well-suited to represent the anxieties associated with the invasion from beyond the Iron Curtain.

In the United States, in particular, the paranoid frenzy of "search for evidence" through the denunciation of acquaintances and colleagues characterized the entire McCarthy era (the same era that revived the metaphor of the "witch hunt" in America). It was a colossal work of propaganda and persuasion where Americans were made to believe that their neighbors were not exactly who they claimed to be. The horror of alien invasion (and the "Red threat") essentially depicted a nation locked in defense against anything that could come from the outside but uncertain about the security of its own borders (Poole 2011).

However, as the Cold War provided the backdrop for the traditional alien invasion, with the alien creature that imposed itself in cinema from the 1980s onward, the enemy became more elusive, intangible, and invisible. It was as if society was deprived of an external subject on which to unload and attribute the responsibilities for its persecutory fears, projecting them onto a monstrous creature without form or boundaries—the creature from "Alien." It was the uncertainty of not only the boundaries of our society and culture (a by-product of the processes of globalization, which were becoming increasingly evident in common discourse) but also the boundaries of one's own body. Omar Calabrese describes the creature from *Alien* (and its descendants) as an "unstable monster," placing it among those forms "that do not properly have a form but are rather in search of one." It is a liminal monster in form and in the places, it inhabits, a hybrid that "makes its perpetual state of being on the margins an element of further threat: it is not here, but it could be. It could arrive. It is perpetually traveling towards us.



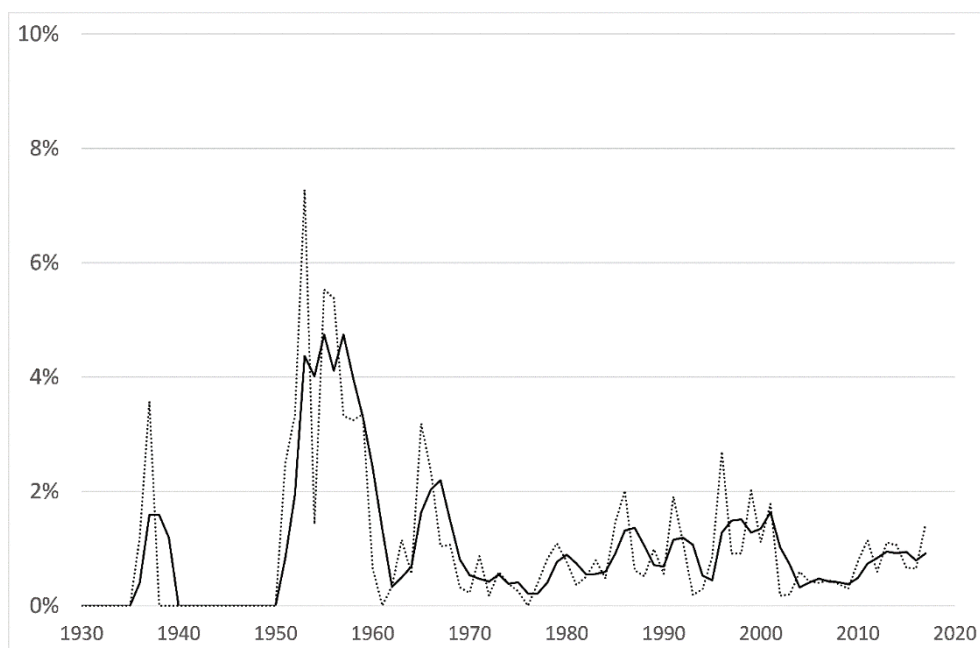


FIG. 8 – Percentage of films featuring content related to alien, in bold the three-year smoothed average (Source: our elaborations on IMDb data).

3.5 Killer

Killer subgenre contains keywords such as “killer”, “murder”, “homicide”, “assassin”, and similar terms. The serial killer as a monstrous figure in cinematic imagination appears in significant waves whenever society feels threatened in its security. The 1970s and 1980s are the periods in which the figure of the serial killer becomes more prominent on the screens. It is no coincidence that these are periods in which perceived insecurity is linked to acts of violence, which may be exaggerated but become real when the public perceives them as such. The serial killer, however, is a distinctly modern figure: no matter how one interprets their resurgence in different cinematic years, there is a typically contemporary aspect to their serial nature (Haggerty, 2009; Seltzer, 1998). In the serial killer modern figure there is a convergence of various dimensions: Mediatization – cultivate by the mass media feed public appetites for the sensational, cynically capitalize on the horrific, and institutionalize a culture of celebrity. Anonymity:

Increased social anonymity is also a fundamental precondition for the rise of serial murderers. Indeed, a defining attribute of serial killers is that they prey on strangers. Prior to embracing the phrase ‘serial killers’ in the 1970s, the police categorized such behaviors as ‘stranger killing’ (Haggerty, 2009:176).

Rationality: It's the idea of a kind of "Fordism" of murder, an art of killing "in the age of its technical reproducibility," precisely an art of serial killing. The serial killers

in the cinema of the 1970s and 1980s, are thoroughly modern because, as suggested by Annalee Newitz, they are "monsters of capitalism" (Newitz, 1998). Their brutality condemns the methods of contemporary capitalist production by taking them to the extreme, ultimately leading to the mass (serial) production of lifeless bodies.

The serial killer presents a gothic and horrifying version of Marx's concept of "dead labor," projecting the destructive sentiments inspired by the workplace onto the victims.

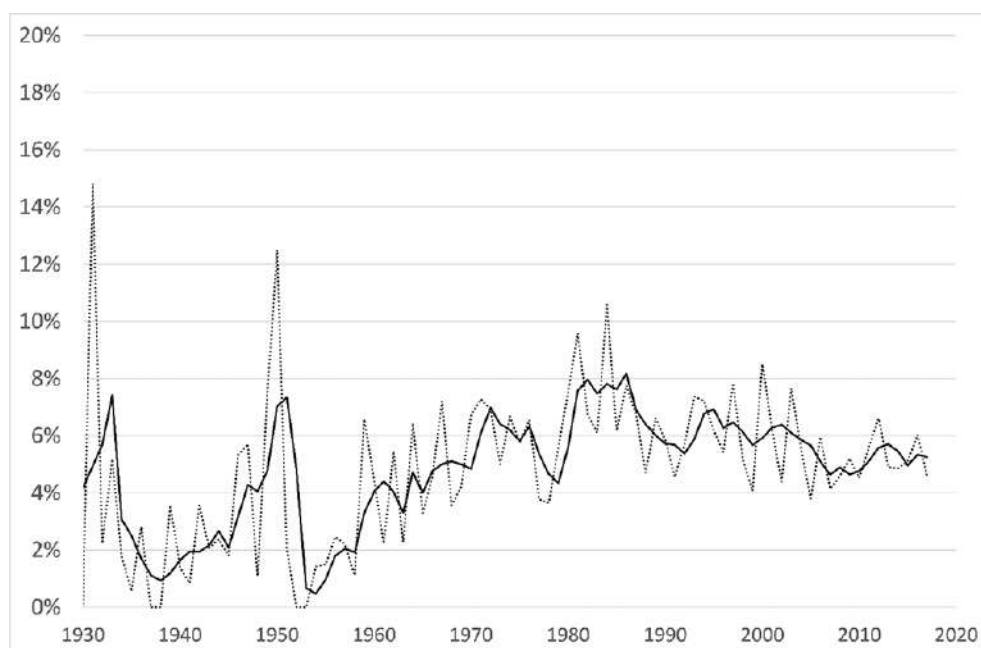


FIG. 9 – Percentage of films featuring content related to killer, in bold the three-year smoothed average (Source: our elaborations on IMDb data).

3.6 *Zombie*

Zombie subgenre contains keywords such as "zombie", "undead", "living dead", and similar terms. The graph in Figure 10 clearly shows how the zombie has experienced particularly significant moments of cinematic presence. The first "peak" coincides with what we could define as the "first generation" of cinematic zombies in the 1930s and 1940s, with films such as *White Zombie* (Victor Halperin, 1932) and *I Walked With a Zombie* (Jacques Tourneur, 1943). In these cases, the films, in some way, draw from the Haitian origins of the zombie, where the zombie is not a monstrous figure, but rather the victim of a sorcerer who reanimates people, reducing them to a "post-mortem" slavery. In Haiti, the fear is not of the zombie itself, but of becoming one – and of the sorcerer who reduces them to such a state. Connected to the contemporary issue of the United States' colonial occupation of Haiti, this first generation of "voodoo-themed" zombie films is linked to various

messages ranging from the orientalist (re)imagining of Caribbean cultures (especially Haiti) to colonial and colonialist imagery. This is combined with a representation of the "soulless slave" on Haitian sugar plantations, which eerily resembled the conditions of the American working class during the Great Depression.

What's more, both *White Zombie* and *I Walked With a Zombie* feature white heroines turned into zombies by clearly non-white sorcerers. For a Western (and white) audience, the true horror in these films is not the slavery of black individuals but rather the risk that white protagonists may themselves become zombies. The real horror, in other words, is the possibility that Westerners can be dominated and "colonized" by the very slaves they transported from Africa (or their descendants), ultimately becoming slaves themselves.

The second "peak" in our graphs coincides with the "second generation" of cinematic zombies, roughly dating back to the post-World War II years. This generation witnesses a fundamental transformation in the metaphor of the living dead. We are no longer dealing with solitary zombies or small groups enslaved by a master-sorcerer, but rather with a genuine and overwhelming mass of anonymous beings. After the discovery of thousands of corpses piled up in German concentration camps by the Allied forces, and especially after the trauma of the atomic bombs dropped on Hiroshima and Nagasaki, popular imagination was fueled by hordes of the undead reduced to such a state by the nuclear threat.

The Cold War, and thus the fear of communism, as well as the nightmare of the atomic bomb, reawakened ancient fears of the nation in 1950s and 1960s America. The metaphor of zombification was particularly apt for representing anxieties related to the invasion from behind the Iron Curtain. The horror of the zombie invasion (and the "Red Threat") essentially portrayed a nation gripped by paranoia, locked in defence against anything that might come from outside, yet uncertain about the security of its own borders.

However, the most significant presence of the zombie on the cinematic screens coincides with the last two "generations" of the living dead: those of the 1970s-1980s and the first decade of the 21st century (Hubner *et al.*, 2014). The cinematic generation of zombies from the 1970s to the 1990s, inaugurated by George A. Romero with *Night of the Living Dead* (1968), along with its numerous sequels (and remakes and various imitations), has been variously interpreted as a reflection on racism and racial issues, the breakdown of the nuclear family, and a commentary against the Vietnam War, especially concerning *Night of the Living Dead*. It was also seen as a sharp critique of consumer culture, notably in *Dawn of the Dead* (1978), where survivors of the "zombie apocalypse" take refuge in a shopping mall, as the zombies themselves seem to want to enter due to a kind of "consumer instinct." In the same period, Italy saw the emergence of the "cannibal" film subgenre (with directors like Lucio Fulci and Joe D'Amato), often set on distant Caribbean islands, bringing back colonial fantasies (especially in the connection between the "savage cannibal" and the zombie), and characterized by a unique style centered on excess, grotesqueness, and disgust, where exoticism blends with eroticism.



Finally, the last generation (with the most recent films by Romero and a series of movies where the figure of the zombie tends to become increasingly "humanized," or where the survivors of the attack appear more inhumane than the zombies themselves) would reflect all our anxieties about the lack of stability and security, essentially equating "us" and "them," to discover that, ultimately, "we are the zombies." In the latest films, aspects related to contagion and epidemics (even pandemics, as zombie apocalypses tend to have a global scope) are evident, tying these productions to the discourse of disease, virality and contamination, as well as concerns related to bioethical issues, such as the definition of "biological death."

These issues link the latest cinematic generation to a dimension that can be traced back to the pathologization and medicalization of society, whose global spread arouses all our fears related to the processes of globalization (see a film like *World War Z*, directed in 2013 by Mark Foster). The living dead thus become a far too realistic representation of contemporary proletariat, migratory flows, and the increasing ease with which people can end up in a state of "non-person," real living dead." (Moreman, 2011).

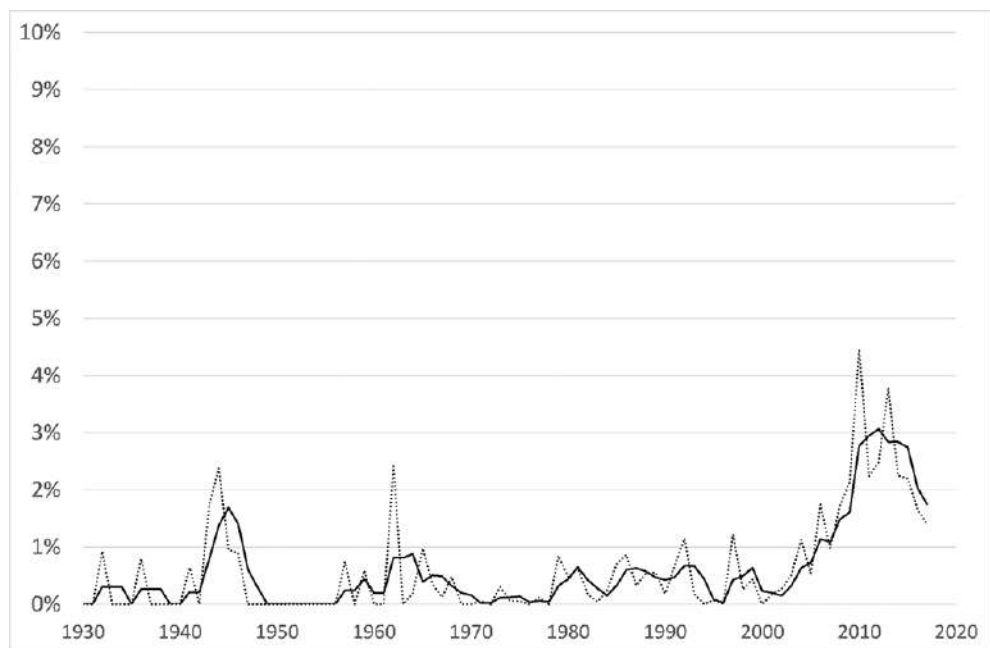


FIG. 10 – Percentage of films featuring content related to zombie, in bold the three-year smoothed average (Source: our elaborations on IMDb data).

Other intriguing trends are observed in specific subgenres. For example, Figure 10 depicts the percentage of erotic contents in horror movies. Erotic contents began to significantly appear in horror movies in Sixties. In the landscape of 1960s and 1970s horror cinema, the exploration of sexuality was often intertwined with themes of mania and psychosis. Alfred Hitchcock's *Psycho* (1960) stands as a seminal example,

where Norman Bates's disturbed psyche manifests in his complex relationship with his mother and repressed sexual desires. This film shattered conventions by openly addressing taboo topics of sexuality and deviance. Similarly, films such as *Peeping Tom* (1960) and *The Texas Chain Saw Massacre* (1974) delved into the disturbing intersections of sex and psychosis, portraying maniacal characters whose actions are driven by deep-seated psychological turmoil. These cinematic productions served as reflections of societal anxieties surrounding sexuality and mental illness (and its redefinition) during this tumultuous period of radical cultural change.

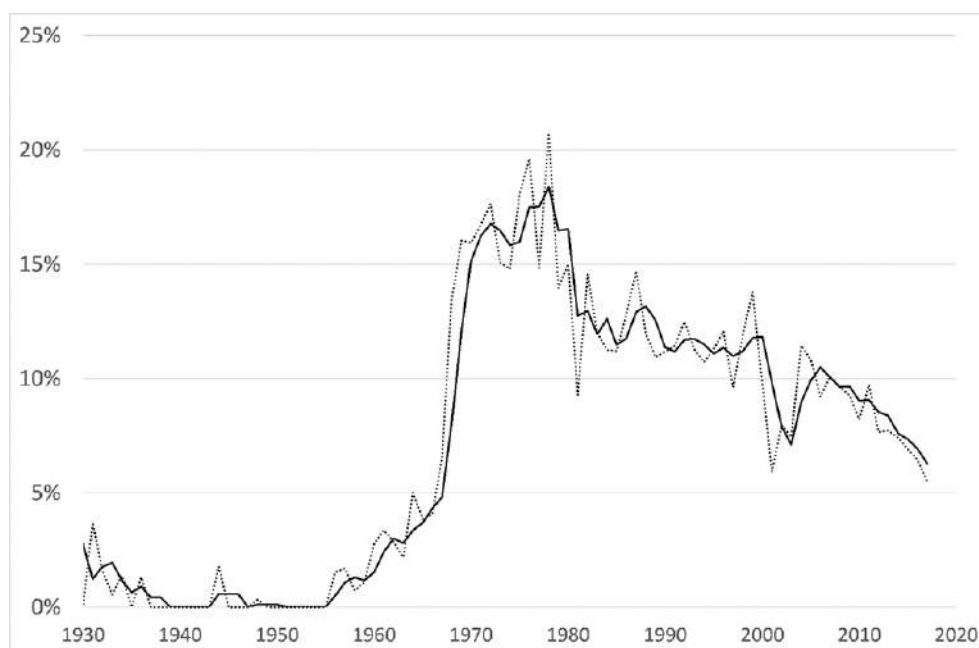


FIG. 11 – Percentage of films featuring content related to eroticism in horror movies, in bold the three-year smoothed average (Source: our elaborations on IMDb data).

4. Conclusions

To summarize, on the basis of clues that emerged from the multivariate analysis and trends, a social periodization of fear in horror movies can be proposed. Co-word analysis suggested some clusters of keywords, and a possible periodization, at least in four main periods. MDS suggested, considering some sub-genres that are particularly significant from the point of view of semantic contents, a family of relevant cultural markers.

Figure 12 shows a hypothesis of periodization. In the last column, we have included a selection of titles and assessed their popularity, which we believe are indicative of the cultural climate. This does not imply that, for example, classic monster films were not made in the 1970s or other periods: for example, there have



been Dracula films in all eras of cinema, from Murnau's *Nosferatu* in 1922, to Fisher's *Dracula: Prince of Darkness* in 1966, to *Bram Stoker's Dracula* by Coppola in 1992, to name a few. However, the success and prevalence of horror, or its newfound vitality, were characterized, relatively speaking, by other subgenres. In other words, cultural innovations in horror themes, for example in the 1960s-1970s, revolved around human killers, psychopathologies and the intrinsic evil in human existence.

A first period, the post-war era and the Fifties/Sixties, is characterized by post-war fears, embodied in the (today) classical monsters (Godzilla, creatures, werewolf, blob, and so on). Here, dominant heterogeneous fears, inherited from the war and linked to a period of change and novelty: technological fears are manifested in scientific experiments with disastrous effects, alien invasions materialize American anxiety about communism, the unknown lies in mysterious and forgotten places and returns from the past. In these years, although fears appear frequently rational and physical, the threats come from other entities, non-human but tangible and corporeal, material, made of flesh and bones.

A second period spans from the Sixties to the Seventies, showing a radical change compared to the previous period. Successful horror movies more often concern psychological aspects of the evil nature of humans. The antagonist is often human, a killer or assassin, a maniac, often with a latent or expressed sexual disorder (*Psycho* 1960, *Profondo rosso* 1975). Erotic content in horror films appears in the Sixties and explodes in the Seventies, also marking a wider freedom of expression on these themes, in particular showing explicit contents.

The third era is situated between the 1970s and 1990s. A return of classical and new monsters defines this period. There is a shift towards a new dehumanization of fear. Antagonists are not humans, but supernatural entities other than humans (aliens, vampires, gremlins, demons, and so on). Sometimes comedy elements are inserted into movies, accompanying the story and infusing it with parodic and satirical meanings (e.g., TV as a spectral medium in *Poltergeist* in 1984, or movies as *Gremlins* in 1984 or *Army of darkness* in 1992 – in facts, a specific trend, not shown here, present an increase of comedy contents in horrors starting in Eighties). Moreover, the presence of ghosts and possessed entities becomes more important than in the past (for example, *Evil Dead* 1981), as does the presence of dreamlike or parallel dimensions (*Nightmare on Elm Street* 1982, *Hellraiser* 1987, or *Hellbound* 1994).

The last period spans from the end of the nineties to the 2010s. Horror movies abandoned rational components in favor of irrationalism, where the source of terror often lacks explanation (as in *Final destination* series, starting in 2000). Evil entities are no longer limited to human forms and can sometimes even be intangible, possibly reflecting anxieties stemming from the loss of control over precarious lives (Bystritsky & Kronemyer, 2014) and the increasing mediatization (and digitalization) of lifestyles (as seen in *The ring* 2002, or *Pulse* 2006). A notable exception during this time was the proliferation of audio-visual products about zombies (and TV series), which saw a surge in production during the first two decades of the new millennium (see above Figure 10). The zombie epidemic depicted in these films tapped into fears of apocalyptic contagion. It's worth considering whether these narratives played a



role in helping society cope (or not) with events like COVID-19. Otherwise, Behuniak (2010) associated the new age of the zombie with the ageing of society, viewing these monstrous figures as a representation and stigmatization of Alzheimer's disease, where afflicted individuals are separated and isolated, creatures with no memory of their past existence.

In summary, horror movies serve as a lens through which to understand social fears, varying over time and across countries (Treisman, 2011). The evolution of fears depicted in these films reflects not just a quest for commercial success by filmmakers and producers, but also a convergence of collective anxieties and the need to confront and manage sources of life stress. Monsters and evils portrayed in horror movies are not merely fictional creations, but often mirror real-world challenges faced by individuals and society at large. Quoting Furedi's concluding words (Furedi, 2007: 234):

A proper sociological understanding of fear requires further research into the way in which this emotion is mediated through today's cultural outlook. We must address not simply the emotion of fear and the threats to which it is a response, but also the crisis of causality that shapes the fearful subject. As indicated previously, twenty-first century fear culture is increasingly being normalised as a force in its own right. In such circumstances, fear is a means through which people respond to and make sense of the world (Furedi, 2007: 234).

This study suggests that horror movies mirror shifts in societal attitudes and concerns, reflecting how people cope with anxieties arising from social changes. These changes are driven, for example, by new technology, the sexual revolution, conflicts, economic crises, or illness, and as a result, people experience (or dread experiencing) failures and losses, confronting the fears that stem from these challenges.





APPROXIMATE PERIOD	DESCRIPTION	Most popular titles
Post-war and the 1950/60s	Post-war Fears: The Golden Age of Monsters and the Fear of the Rational	The Wolf Man* (1941) Frankenstein Meets the Wolf Man ** (1943) Godzilla* (1954) Creature from the Black Lagoon** (1954) Invasion of the Body Snatchers** (1956) The Curse of Frankenstein** (1957) The Abominable Snowman*** (1957) The blob* (1958) Plan 9 from Outer Space* (1959)
The 1960/70s and early 1980s	Freudian Fears: Human Nature and Evil	Psycho* (1960) What Ever Happened to Baby Jane?* (1962) Repulsion* (1965) Rosemary's baby* (1968) L'uccello dalle piume di cristallo* (1970) The Exorcist * (1973) The Texas Chain Saw Massacre * (1974) Profondo rosso** (1975) Carrie* (1976) Halloween* (1977) Altered states* (1980) Cannibal Holocaust*** (1980) Evil dead* (1981) Christine** (1983) Silent Night, Deadly Night* (1984)
From 1980 to 1990s	The Return of Monsters: The Advance of the Irrational and the Dehumanization of Fear	Alien* (1978) Nosferatu* (1979) Zombie*** (1979) The thing* (1982) A Nightmare on Elm Street* (1982) Poltergeist** (1984) The Return of the Living Dead* (1985) The fly* (1986) Evil dead 2* (1987) Sleepwalkers (1992) Hellbound* (1994) Vampire in Brooklyn* (1995) An American Werewolf in Paris* (1997) Bride of Chucky* (1998) Sleepy hollow* (1999)
From 2000s	The Rise of the Irrational and the Dematerialization of Fear (plus zombies)	The blair witch project** (1999) Final destination** (2000) The others* (2001) The ring** (2002) Constantine* (2005)

FIG. 12 – Approximate periodization of horror genres and their respective fears.

Bibliography

Barbelet J., and Barbelet J. (2002). *Introduction: Why Emotions. Emotions and Sociology*, Oxford: Blackwell.

Beck U. (1992). *Risk society: towards a new modernity*. London: Sage.

Behuniak S. M. (2011). "The living dead? The construction of people with Alzheimer's disease as zombies". *Ageing & Society*, 31(1): 70-92.

Bericat E. (2016). "The sociology of emotions: Four decades of progress". *Current sociology*, 64(3): 491-513.

Bystritsky A., & Kronemyer D. (2014). "Stress and anxiety: counterpart elements of the stress/anxiety complex". *Psychiatric Clinics*, 37(4), 489-518.

Cacioppo J. T., Berntson G. G., Sheridan, J. F., and McClintock, M. K. (2000). "Multilevel integrative analyses of human behavior: social neuroscience and the complementing nature of social and biological approaches". *Psychological bulletin*, 126(6), 829.

Caliandro A., & Gandini A. (2017). "Qualitative research in digital environments: A research toolkit". *Routledge*.

Callon M., Courtial J. P., Laville F. (1991). "Co-word analysis as a tool for describing the network of interactions between basic and technological research: The case of polymer chemistry." *Scientometrics*, 22: 155-205.

Codeluppi V. (2013), "Per una critica dell'immaginario pop: da Benjamin a Baudrillard e ritorno", in *IM@GO. A Journal of the Social Imaginary*, ISSN 2281-8138. 1:(2013), pp. 87-98.

Cohen J.J. (1996). *Monster theory: Reading culture*. University of Minnesota Press.

Collins R. (1984). "The role of emotion in social structure". In K. Scherer and P. Ekman (Eds.), *Approaches to emotion*. New York: Erlbaum.

Davis C. (2007) "État Présent: Hauntology, Spectres and Phantoms", in *French Studies*, a. LIX, n. 3, pp. 373-379 (p. 377). Cfr. anche C. Davis, *Haunted Subjects. Deconstruction, Psychoanalysis and the Return of the Dead*, Palgrave, Basingstoke.

Douglas M., (1992). *Risk and Blame: Essays in Cultural Theory*, London and New York: Routledge.



Furedi F., 2007. "The only thing we have to fear is the 'culture of fear' itself". *American journal of sociology*, 32(2), pp.231-234.

Furedi F., 2018. *How fear works: Culture of fear in the twenty-first century*. Bloomsbury Publishing.

George S. Hughes B. (2013). "Introduction: undead reflections: the sympathetic vampire and its monstrous other". *Gothic Studies*, 15(1): 1-7.

Giddens A., (1990). "The Consequences of Modernity", Cambridge: Polity Press.

Glassner B. (2004). "Narrative techniques of fear mongering." *Social Research: An International Quarterly*, 71(4), 819-826.

Goffman E. (1983), "The Interaction Order", in *American Sociological Review*, a. XLVIII, pp. 1-17.

Gordon S. L. (1990). "Social structural effects on emotions". In T. D. Kemper (Ed.), *Research agendas in the sociology of emotions*. Albany: State University of New York Press, 1990, pp. 145-179.

Haggerty K.D. (2009). "Modern serial killers". *Crime, Media, Culture*, 52: 168-187.

Hill A., Mortensen M., Hermes J. (2021). "Fear: Introduction to special issue". *European Journal of Cultural Studies*, 24(4), 793-800.

Hochschild A.R. (1979). "Emotion work, feeling rules, and social structure". *American journal of sociology* 85, no. 3 (1979): 551-575.

Hout M. C., Papesh M. H., Goldinger S. D. (2013). "Multidimensional scaling". *Wiley Interdisciplinary Reviews: Cognitive Science*, 4(1), 93-103.

Hubbard P. (2003). "Fear and loathing at the multiplex: everyday anxiety in the post-industrial city". *Capital & Class*, 27(2): 51-75.

Hubner L., Leaning M. Manning P. (2014). *The zombie renaissance in popular culture*. Basingstoke: Palgrave Macmillan.

Illouz E. (2009). "Emotions, imagination and consumption: A new research agenda". *Journal of consumer culture*, 9(3), 377-413.

Jeffries F. (2013). "Mediating fear". *Global Media and Communication*, 9(1), 37-52.



Kemper T.D.A. (1978). *Social interactional theory of emotions*. John Wiley & Sons, 1978.

May R. (1950). *The Meaning of Anxiety*. New York: The Ronald Press Company.

Millar B., & Lee, J. (2021). "Horror Films and Grief". *Emotion Review*, 13(3), 171-182.

Moreman Ch. M., Rushton C. J. (a cura di), *Zombies Are Us. Essays on the Humanity of the Walking Dead*, Jefferson, NC: McFarland & Company.

Muntean N. Payne M.T. (2009). "Attack of the livid dead: Re-calibrating terror in the post-September 11 zombie film". In A. Schopp and M. B. Hill. (eds) *War on Terror and American Popular Culture: September 11 and Beyond*. Teaneck: Fairleigh Dickinson University Press.

Newitz A. (1998). *When we pretend that we're dead: monsters, psychopaths and the economy in American popular culture*. Berkeley: University of California.

Ohman A. (2008). "Fear and anxiety: Overlaps and dissociations", M. Lewis, J.M. Haviland-Jones, L.F. Barrett (Eds.), *Handbook of emotions* (3rd ed.), New York: Guilford Press.

Poole W. S. (2011). *Monsters in America: Our historical obsession with the hideous and the haunting*. Baylor University Press.

Riezler K. (1944). "The social psychology of fear". *American Journal of Sociology*, 49, no. 6 (1944): 489-498.

Rodrigues S.M., LeDoux J.E. Sapolsky R.M. (2009). "The influence of stress hormones on fear circuitry". *Annual review of neuroscience*, 32: 289-313.

Salganik M. J. (2019). *Bit by bit: Social research in the digital age*. Princeton University Press.

Seltzer M. (1998). *Serial killers: Death and life in America's wound culture*. London: Routledge.

Treisman D. (2011). "The geography of fear. No. w16838". *National Bureau of Economic Research*, 2011.

Tudor A. (2003). "A (macro) sociology of fear?." *The Sociological Review*, 51 (2): 238-256.

Turner J. H. (2009). "The sociology of emotions: Basic theoretical arguments". *Emotion Review*, 1(4): 340-354.



Simone Sarti, Massimo Airoidi, Federico Boni
The evolution of fear

Turner J.H. (2000). *On the origins of human emotions: A sociological inquiry into the evolution of human affect*. Stanford University Press.

Venturini T., Jacomy M., Jensen P. (2021). "What do we see when we look at networks: Visual network analysis, relational ambiguity, and force-directed layouts". *Big Data & Society*, 8(1), 20539517211018488.

Von Scheve C., and Von Luede R. (2005). "Emotion and social structures: Towards an interdisciplinary approach". *Journal for the Theory of Social Behaviour*, 35(3): 303-328.

Weinstock (a cura di), J. A. (2004) *Spectral America. Phantoms and the National Imagination*, Madison-Londra, University of Wisconsin Press.

