WHAT DO GHOSTS FEEL?

Emotion in the Afterlife

By Lisa Feldman Barrett and Daniel J. Barrett

It is widely known and accepted that people are afraid of ghosts. But what do ghosts themselves feel? Are they sad that they died? Do they enjoy scaring us? The field of ghost emotions (also known as "adfectuspirituality" or "psychological heebiejeebism") is arguably one of the fastest growing disciplines in psychology today. Emotion laboratories worldwide, most notably the newly founded Center for Research on Emotion, Ectoplasm, and Psychological Science (C. R. E. E. P. S.) at the Università del Purgatorio in Milan, Italy, are turning their attention to the incorporeal sciences. Moreover, ghost-emotion research has gained much credibility within funding agencies, as it is the only field in psychology in which luminaries like Jean Piaget and Sigmund Freud remain available for consultation.[1]

The science of ghost emotions dates back to Charles Darwin, who proposed that certain emotions were passed down from the living to the dead through evolution — indeed, his masterworks *The Expression of the Emotions in Man and Animus* and *On the Origin of Specters* are undying classics in the field. William James, who had an interest in spiritualism, famously wrote that "ghosts do not cause us to feel fear; rather, it is the experience of fear that summons ghosts to us" (later called the James-Doppelgäng Theory of Emotion).[2]

In the modern day, there are several schools of thought on ghost emotions. The most well-known is the theory of basic ghost emotions, which posits three criteria: The emotion must exist from the moment of death, have a unique and spooky expression, and be found in the ghosts of other animals.[3] The most well-studied ghost emotion — the desire to scare (known in the literature as "Boo") — is claimed to meet these criteria. In particular, the wide-eyed, open-mouthed facial expression associated with the experience of Boo (Fig. 1) is said to be universal among ghosts, at least among those with faces.[4] A search for the hypothetical "Boo circuit" is ongoing.

Figure 1: A facial configuration for Boo (simulated).

A second school of thought comes from evolutionary psychology, wherein the primary question is one of ancestry. Were the emotions of ghosts designed for our hominin ancestors who perished on the African savannah? Or do they extend further back, to our primate ancestors who plummeted out of trees? Some proponents trace the roots of ghost-emotion circuitry all the way back to squashed insects.[5] Of particular note is evolutionary psychology's fascination with ghosts who came into existence through decapitation: For some reason, these spirits often rise together and form large, effective social groups. The mystery of how and why these communities of the dead can thrive, despite the citizens' total lack of eyes, noses, mouths, and ears, has been termed the struggle of "getting along versus getting a head."

A third school of thought is rooted in psychological construction (sometimes mislabeled as "other-dimensional" approaches). The ghostly mind is said to contain basic ingredients that combine and interact in complex ways to produce supernatural phenomena, including emotions. Identifying those ingredients is an area of active research, but current hypotheses include light, soul, and swamp gas. In a construction mindset, an emotion such as "Boo" is not a uniform essence (e.g., a "supernatural kind") but a broad category with great variety (Fig. 2).

Figure 2: Some of the many facial configurations for Boo.

Regardless of which theory one subscribes to, most scientists agree that ghost emotions can be usefully mapped onto a one-dimensional circumplex along an axis ranging from "Friendly" to "Scary."[6]

Haunting Challenges

Scientists still know frighteningly little about the emotions of ghosts. Even trivial questions such as "Do ghosts perceive fear?" are at an embarrassingly early stage of inquiry.

The challenges of studying ghost emotions are well-known. First, despite the fact that more humans have died than walk the earth today, ghosts are incredibly difficult to find and recruit as subjects. Even when scientists recruit heavily in ghost-friendly areas (e.g., abandoned warehouses, funeral homes, or the annual convention of the Helmetless Motorcycle Riders Association), many spirits are reluctant to leave the spot

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where they perished, let alone travel to an academic lab. Those ghosts who are genuinely interested in volunteering quickly become frustrated by the advertising flyers that university researchers post on campus bulletin boards because their ghostly fingers pass through the little tear-off tabs at the bottom of the sheet. The few spirits (8.2%) who finally do show up for duty often go unnoticed. Some labs have effected workarounds for these challenges. One popular recruiting strategy is to seat the lab at a round table by candlelight, hold hands, and spell out emotion words on a Ouija board, a practice known as affective séance. A more ambitious strategy is to manufacture one's own ghostly subjects as needed (e.g., converting an underperforming research assistant or two), but this creative approach rarely receives approval from institutional review boards (IRBs).

Second, ghosts who do reach the lab have unique needs. They cannot perform experimental tasks unless all lighting is extinguished, leading to inaccurate readings, increased accidents, and higher insurance premiums. Additionally, during trials, all lab personnel must maintain an unwavering belief in the supernatural lest their subjects vanish in the presence of unbelievers — a requirement that wreaks havoc with experimenter objectivity. Moreover, 63% of research assistants flee uncontrollably during subject intake and debriefings and must be restrained in order to attend to their duties (again meeting skepticism from IRBs).[7]

Third, standard laboratory techniques do not work well on ghosts. Most experiments that rely on self-report will fail because the typical ghost subject, in response to any question, will recount a lengthy story about how it died.[8] Likewise, much lab equipment is useless — and not only because the ghost's body passes through it. fMRI, for example, is effectively unusable on denizens of the spirit world. (A short-lived fMRI study of headless horsemen is among the most infamous examples.[9]) One also must convince ghost subjects to set aside their heavy, clanking chains in order to be scanned safely; and the strong magnetic field causes ectoplasm to dissipate instantly.

Spectral Studies

Nevertheless, some experimental paradigms have shown promise. In a typical experiment, a ghost subject is presented with various evocative stimuli (e.g., a photograph of its original living body or of the face of its murderer) while it sits comfortably above a chair. Studies show that the ghost has

a fast, instinctive urge to scare, followed about 150 ms later by a more deliberate action such as moaning loudly or fluttering the curtains.[10]

Perhaps the most famous experiment investigated whether ghosts can experience fear. Researchers recruited 28 ghost subjects born between 576 B. C. E. and 1961 C. E., with ages at death ranging from 11 to 96 years (M = 37, SD = 20.1). Five ghosts were headless; six, skeletal; nine, completely formless; two, on horseback; and one, a poltergeist. Each subject was placed into a cage, where it received electric shocks while being shown a still photo from *Ghostbusters*; later, the ghosts were shown the photo without the shocks. During each trial, scientists measured the ghosts' ectoplasmic conductance, a sophisticated measure of supernatural current. In all cases, conductance remained steady at zero, with or without the shock. This suggested not only that ghosts cannot experience or learn fear, but also that they are, in fact, dead.[11]

Other studies have focused on whether ghosts can perceive fear in humans. In one study, 16 corporeal ghosts (five male; seven female; four indeterminate) were given 128 photographs of stereotypical human facial poses and asked to sort them by category. The results were remarkably consistent across all subjects. For fear-related poses, the subject laid out each photo separately, creating a distinct category for that individual pose. All remaining photos (e.g., happiness, sadness, anger, disgust, schadenfreude, etc.) were heaped into a single pile. The results suggest that ghosts exhibit unprecedentedly high emotional granularity regarding poses of fear and extremely low granularity for all other poses.[12] In a follow-up study, ghosts carried out similar categorizations at distances of up to 750 meters,[13] and a related study of vocalizations suggested that ghosts exhibit similar granularity for human screams versus other vocal sounds.[14] It is unclear how and why this fine-grained categorization of fear takes hold after death, at least for those dead who become ghosts (0.019%); for all others, emotional granularity trends toward zero.

The field of psychology is fortunate to have brave scientists who engage in this otherworldly experimentation, because this work is not without risk. In 2015 alone, four prominent labs suffered tragic accidents or other unexplained phenomena in pursuit of shadowy truths. Two graduate students' hair turned permanently white; one postdoctoral fellow was damned; and an assistant professor's tenure clock mysteriously was set back 200 years. We expect the rate of such incidents to decline as principal investigators become accustomed to allocating grant money for garlic and emergency lighting.

Ethereal Outlook

There still are many mysteries remaining in ghost-emotionality research. Do apparitions all over the world experience the same emotions, or is there multicultural diversity? How can we best perform facial action coding on faceless shades? Do dismembered ghosts suffer from phantom body syndrome? These and other critical questions urgently need thorough investigation as well as funding.

Some critics insist that ghosts are too challenging to work with and argue that as a field we should study vampires instead. Indeed, vampires are far more eager to enter the lab and be close to humans, and early findings suggest that vampires have an "inner bat" that houses ancient emotion circuitry.[15]

Nevertheless, more is learned about ghost emotions every year. Longitudinal studies in particular are seeing success, since any single ghost subject remains available for all eternity. Technology is improving as well: New spectral adhesives carry the promise of attaching electrodes to measure ghostly movements (also known as "facial ectomyography"). A new generation of wearable devices, specially designed for ghosts who are missing limbs or are formless (punningly called "scareable devices"), reportedly is just around the corner. Even the aforementioned difficulties of fMRI, which vaporizes ectoplasm, are being surmounted as increasing numbers of researchers realize that ghosts' heads are, in fact, already fully transparent. Therefore, we must continue boldly forward in our quest to understand the emotions of the ethereal. Only then can we claim to understand the full spectrum of emotional life, from birth to death and beyond. ●

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