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Fortean Phenomena on Film: Evidence or Artifact?

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Abstract — This research tested the hypotheses that anomalous photographic effects must be attributed to the specific recording medium being used, and that the interpretations of such anomalies as paranormal or Fortean are the result of the situational context under which the photographs were obtained. As predicted, an analysis of 67 previously published photographic anomalies indicated that the type of effect was significantly related to the photographic medium, and that the interpretation imposed on these anomalies was congruent with the contextual variables operating during the recording.

Introduction

It has repeatedly been shown that the content and the perceptual modality of ostensibly paranormal phenomena like poltergeist-like experiences, deathbed visions, or angelic encounters, are affected by contextual variables such as demand characteristics, embedded cues, and prior belief or expectations (Lange, Houran, Harte & Havens, 1996; Houran and Lange, 1996b; Lange & Houran, 1996). However, the implication that paranormal experiences are primarily of a psychological, rather than an ontological, origin appears to be contradicted by the existence of various types of photographic (as well as filmed or videotaped) "anomalies" as published or described in the popular press (*e.g.*, Myers, 1986, 1993; Nichols, 1994) and in the parapsychological literature (*e.g.*, Maher & Hansen, 1992, 1995). Typically, these photographic anomalies consist of one or more luminous and partially translucent patches in the expected image which are subsequently interpreted as evidence for the ontological reality of paranormal or other "Fortean" phenomena (*e.g.*, religious apparitions, UFOs, and human auras or psychic bioforms).

Although it is sometimes possible to identify technical causes for photographic effects (*e.g.*, Hattersley, 1981; Nickell, 1994, 1996a, 1996b), most cases cannot be explained through objective analysis. Also, photographic analysis typically provides little insight in the ensuing interpretation of the image (Mayer, 1988). However, consistent with the research on contextual variables cited above, we expect that such interpretations are the result of viewers' expectations, beliefs, and the presence of demand characteristics. Consequently, it is predicted that the interpretation of photographic evidence is highly consistent with the label applied to the context in which the image was obtained (Hypothesis 1). Both the occurrence of paranormal phenomena and the availability and use of particular recording methods are typically high-

ly unpredictable. Presumably, however, similar paranormal occurrences have similar physical manifestations. Hence, an ontological interpretation requires that particular photographic anomalies should occur regardless of the recording medium being used. Conversely, a contextual explanation would be supported by the finding of a relation between the nature of the photographic effects and the nature of the recording medium (Hypothesis 2).

Method

Photographs

A sample of published photographs' (n = 96) purportedly depicting Fortean anomalies on various film media (*i.e.*, Polaroid, videotape, motion-picture, infrared, black & white, and color) was compiled from commercially available sources (Haining, 1975; Piney, 1975; Constable, 1978; That Wedding Photo (Fate), 1978; Brittle, 1980; McClure, 1983; Macer-Story, 1984; Kaczmerak, 1986; Kingsley, 1986; Myers, 1986, 1993; Eden, 1988; Levine, 1988; Stanford, 1988; Bord & Bord, 1989; Riccio & Bingham, 1989; Bingham, & Riccio, 1991; Guiley, 1992; Randles, 1992; Lynch, 1993; Nichols, 1994; Underwood, 1986, 1993; Maher & Hansen, 1992*, 1995*; Michaels, 1996; Persinger, Hart, & Thomas, 1996*). The citations marked (*) provided only descriptions of the photographic artifacts (n = 4). It should be noted that it was not possible for the authors to screen the sample of photographs for deliberate misrepresentation by either those who submitted them or their respective publishing sources. For this reason, we do not maintain that the sample under consideration here is representative of the total number of Fortean photographic effects which may exist but are not publicly reported or available.

Scoring System

Photographic Anomalies. Seven general categories of artifacts were distinguished: 1) Light Streaks: Irregular or linear steaks of light. 2) Fogging: Blanketing of the photograph frame with a cloud-like translucency. **3)** Density Spots: Defined, opaque shapes within the frame (*e.g.*, spherical, triangular, or disc-shaped). 4) Amorphous forms: Similar to fogging, but having a confined, discernible border or limit. 5) Shadows: Dark, amorphous-like forms resembling shadows. 6) Defined Images: Images with clearly recognizable content, such as a face or object. 7) Other: Images which cannot be clearly categorized into any of the six categories outlined above.

'This research excluded the controversial and often fraudulent "classic Spiritualism" photographs of so-called phantom materializations (*e.g.*, Haining, 1975; Stemman, 1975; Burger, 1986), as well as photographic anomalies allegedly produced by "psychics" (*e.g.*, Carrington, 1939; Eisenbud, 1977). For a discussion of these types of anomalies, the interested reader is referred to Eisenbud (1977), Nichols (1994), and Randi (1982).

Recording Medium. Six general media were identified: Color Film, Black and White, Infrared, Videotape, Motion-Picture, and Polaroid.

Congruency Ratings. The correspondence between the interpretation of the photographic anomaly and the situational context when the picture was taken was rated on a three-point scale with categories: 1) Incongruent: The interpretation of the artifact does not agree with the situational context (*e.g.*, a photograph taken during a poltergeist investigation reveals a density spot and is subsequently interpreted as a UFO). 2) Uncertain: The detail concerning the situational context or the interpretation of the artifact is too vague for proper discrimination (*e.g.,* A photograph taken at a wedding reveals an unusual arc of light which was not visible at the time the picture was taken, yet the effect is not given a specific interpretation, and is simply referred to as "odd"). 3) Congruent: The interpretation of the artifact has close congruence to the situational context (*e.g.,* a Polaroid photograph taken at a "haunted house" reveals a fogging effect over the entire photograph and is subsequently interpreted as an apparition or an indication of a possible paranormal presence).

Results and Discussion

All cases were scored by a single rater. To determine the inter-rater reliability, a random sample of 24 cases (25%) were also coded by an amateur photographer who was blind to the hypotheses. The two raters agreed on 21 of the 24 classifications (87%) of both the medium used and the type of photographic effect. Further, in support of Hypothesis 1, in 93 of the 96 (97%) cases, the single rater judged the photographic effect as "congruent" with the context in which the image was obtained. None of the images were rated as "incongruent," and the remaining three photographs (3%) lacked enough detail about the situational context to warrant a congruency rating. Thus, the intraclass correlation (Bartko, 1966) for the congruency ratings was highly significant ($r = .88$, $F(23, 23) = 8.30$, $p < .001$). No film medium was specified for 29 of the 96 photographs; therefore, all statistical analyses reported below are based on the remaining 67 examples.

As is shown in Table 1, the most frequently used photographic medium was Color Film (n = 36). Consistent with the findings of earlier research (Maher and Hansen, 1992,1995; Nichols, 1994), Amorphous Forms (n = 32) and Density Spots (n = 19) were the most frequently occurring effects. By contrast, Shadows and Light Streaks were observed least often (n = 5). In agreement with Hypothesis 2, a significant relation was found between the film medium being used and the qualitative type of photographic effect, as expressed by the proportional reduction in error based on entropy criteria (Symmetric Uncertainty Coefficient = 0.31, $p < .001$). Although there appears to be no clear difference in the direction of this association (Coefficient with the medium dependent = 0.35 versus with the effect dependent = 0.27), it can be excluded that a photographic effect would change the recording medium. Thus, Table 1

TABLE 1
Type of Photographic Anomaly by Recording Medium Used.

Recording Medium	Photographic Anomaly							
	Shadow	Amorph. Form	Density Spot	Fogging	Defined Image	Light Streak	Other	Total
Polaroid	0	3	1	5	0	0	0	9
Color	3	11	4	1	11	5	1	36
Infrared	2	6	3	0	1	0	0	12
Black / White	0	0	1	0	0	0	0	1
Motion Pict.	0	0	3	0	0	0	0	3
Videotape	0	0	6	0	0	0	0	6
Total	5	20	18	6	12	5	1	67

can be interpreted as showing that videotape, motion picture film, and black and white film showed density spots only, whereas color film yielded mainly amorphous forms and defined images. Thus, the medium determines the effect and *not* vice-versa.

The current research is descriptive only, and it therefore does not address the cause for these photographic artifacts. This issue remains a topic of debate among professional photographers (see *e.g.*, Mayer, 1988; Nickell, 1994), and researchers occasionally cite this fact as a justification for labeling some anomalies as "paranormal" or "Fortean" (*e.g.*, Kaczmarek, 1986; Maher & Hansen, 1992,1995). It must be emphasized, however, that there are many potential causes for photographic anomalies. For instance, earthquake lights and other geophysical luminosities (Derr & Persinger, 1989; for a review see Persinger, 1985), ball lighting (Lebelson, 1984), atypical cloud formations (Friedrich, 1987), and atmospheric fluctuations (Frizzell & Walls, 1987; Randles, 1992) often cause impressive visual effects that prompt individuals to take pictures as the effect is occurring. On the other hand, unusual effects are sometimes discovered only ***after*** the film has already been processed. In this case, processing error, mishandling of film, and defective film can produce effects that may puzzle even professional photographers (Mayer, 1988; Nickell, 1994, 1996a). For instance, a number of ghost photographs (*e.g.*, The ***Fate*** Ghost Contest, 1995) were shown to be the result of the camera's cord inadvertently captured within the frame (Nickell, 1996b). Moreover, Hattersley (1981) noted that environmental contaminants like dust, air bubbles, and elec-

trostatic charges can individually or collectively result in anomalies similar to the ones described in the present research.

The present findings imply that anomalous film effects should be attributed to the particular film medium being used rather than to paranormal or Fortean influences. By contrast, some investigators seem to engage in a form of simulacra (*i.e.*, perceiving images out of random background patterns) when interpreting photographic data, and we suspect that such interpretations are the result of contextual influences. For example, during research in a known haunted location (Maher & Schmeidler, 1975), one psychical researcher responded to the finding of an ambiguous "parabola of light" and "dark spot" on an infrared picture (for a reprint of the photograph see: Guiley, 1992, p. 212) by stating "Look at this dark spot...why would this be here? What could have produced this strange effect at this one spot?" (Cochran, 1988, p. 83). Note, however, that the present findings predict that such amorphous forms are a typical artifact of the use of infrared film. Consequently, we suggest that most of the "proofs" of the paranormal based on photographic data are often the result of the tendency to interpret ambiguous stimuli as meaningful due to a paranormal context (Houran & Lange, 1996a).

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