

COMIC PERCEPTION AND INCONGRUENT CAUSAL EVENTS: THE ROLE OF PARADOXICAL ANIMACY

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Abstract

As noticed by Michotte (1946), triggering effect, in which there is incongruity between cause and effect, produces a funny impression. To explore this phenomenon and more generally the perceptual bases of humor, we focused on the role of paradoxical animacy, that is, the simultaneous presence of mechanical and psychological features, in causal paradigm. We hypothesized that animations that produce animacy impressions are associated with higher comic ratings than animations producing only mechanical incongruity. In the present experiment the second part of the causal event varied in speed, size, shape, color, or trajectory, generating 13 animations incongruent with launching. We measured the impression of both animacy and comic on a 1-10 scale in 28 naïve observers. Data analysis showed a significant correlation between animacy and comic ratings. General findings strongly suggest that paradoxical animacy is a relevant factor in perception of humor.

Humor has traditionally been seen as a multidimensional phenomenon, accounted for emotional, motivational, and cognitive factors. In cognitive psychology comic has been studied in problem-solving activities, as well in linguistic and graphical tasks. A crucial determinant of comic, since Aristotele, seems to be incongruity. It has been defined also in term of ‘bisociation’ to refer to the juxtaposition of two normally incongruous frames of reference (Koestler, 1964).

While the most theories and experiments analyzed high level properties of humorous stimuli or the way they are processed (see for a review Martin, 2007), very few is known about the role of perceptual factors in funny events. To explore this area we started from an observation made by Michotte, during his seminal work on causal perception. He found that if the launched object is much faster than the launcher, it seems ‘triggered’ by the first, and looked funny (Michotte, 1946). He explained this effect in terms of incongruity between the first and the second part of the event. Lately some authors have pointed out that some causal events are spontaneously perceived as social or psychological events. For instance, if the second moving object begins to move before the contact, it appears ‘escaping’ from the first, effect named ‘intentional reaction’ (Kanizsa & Vicario, 1978) and ‘psychological causality’ (Schlottmann, Allen, Linderoth, & Hesketh, 2002).

We hypothesized that incongruity between cause and effect, in launching paradigm, is a necessary but not sufficient condition to perceive an event as comic. We tested the hypothesis that incongruous events become comic when they elicit an impression of paradoxical animacy, that is, the impression that moving squares behave as animate agents.

Method

The experiment was designed varying the launching paradigm (Michotte, 1946), where one square moves toward a second square and the second square appears ‘pushed’ away by the first. We obtained 13 animations. In each animation immediately after the contact the second square: changed shape shrinking in different ways (7, 8, 9); smashed (6); split in two parts (13); flashed changing color intermittently (5); varied size (2, 3, 4); moved in place, drumming (10, 11), or moved away, jumping (12) or falling (1) (see Figure 1 to see schematic descriptions of Stimuli 4, 12, 8, 13, 6, 7).

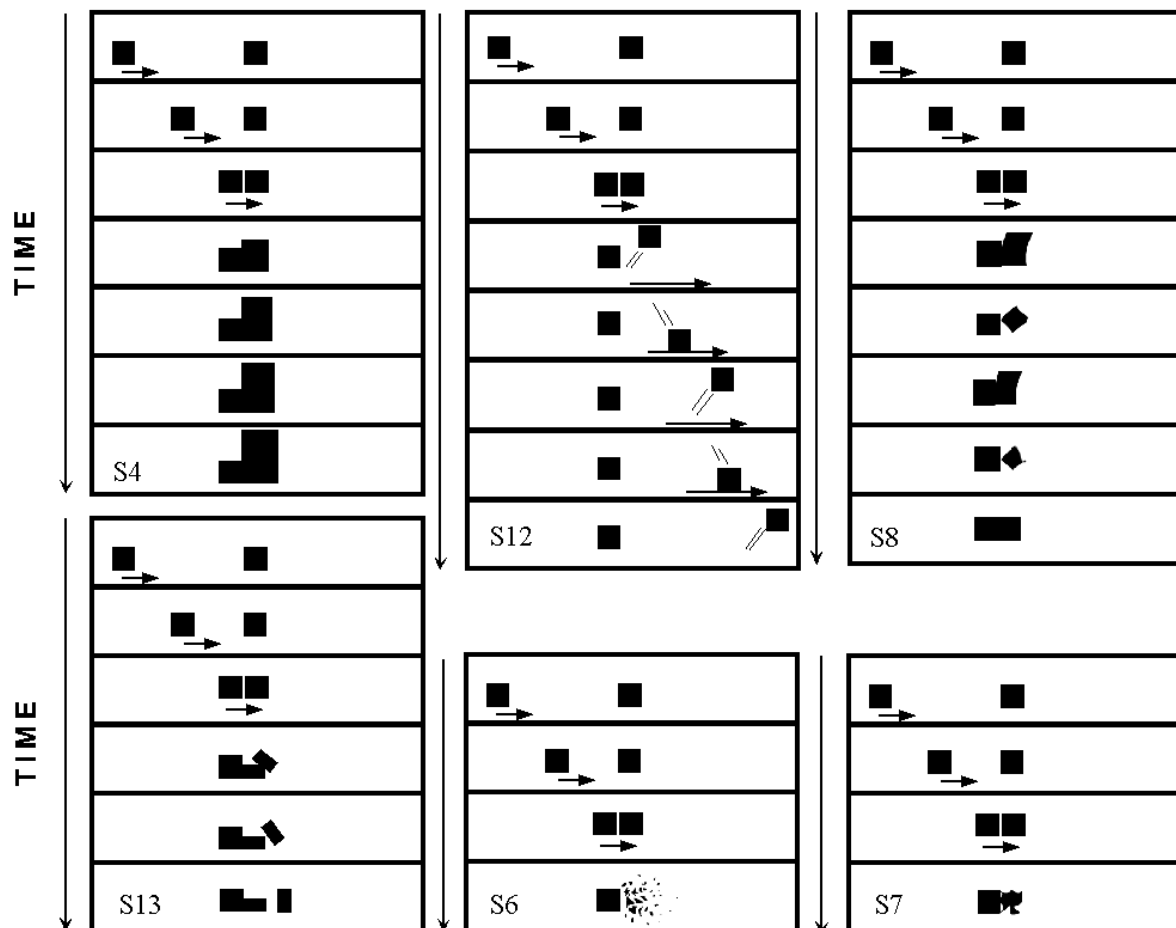


Fig.1. Examples of the stimuli used in the experiment: Stimuli 4, 12, 8; 13, 6, 7.

Subjects and procedure

28 naïve subjects (mean age 23) were presented each animation one time and in randomized order. Participants task's was first to spontaneously describe (writing on a sheet of paper) what they perceive, and then to judge both the perceived animacy and the impression of comicity on a 1-10 scale.

Results and Discussion

Spearman's rank order correlation coefficient was calculated to determine the degree of relationship between animacy and comic perception. We found a positive and significant

correlation ($r = .614, p < .05$) between animacy ratings and comic ratings. Figure 2 shows the means and standard errors for animacy and comic ratings in the 13 stimuli. Note that most animations were ambiguous, as could be seen either as mechanical or psychological events: a square that becomes bigger, or lower, for instance, can show a dominant attitude or a strictly physical change.

Results show that when subjects spontaneously described an event in psychological terms, they tend to give a high score both to animacy and to comic, while if the same event was perceived merely as a mechanical event, scores to animacy and to comic are both lower. For instance, Spearman's rank order correlation coefficient for animation 7 ($r = .744, p < .05$), in which animacy ratings are low, and for animation 12 ($r = .714, p < .05$), in which on the opposite animacy ratings are high, had both an high and significant correlation with comic ratings. Whereas animations 6, in which the second square smashed, and 10, in which the second square moved as drumming, had a low correlation coefficient (see Table 1).

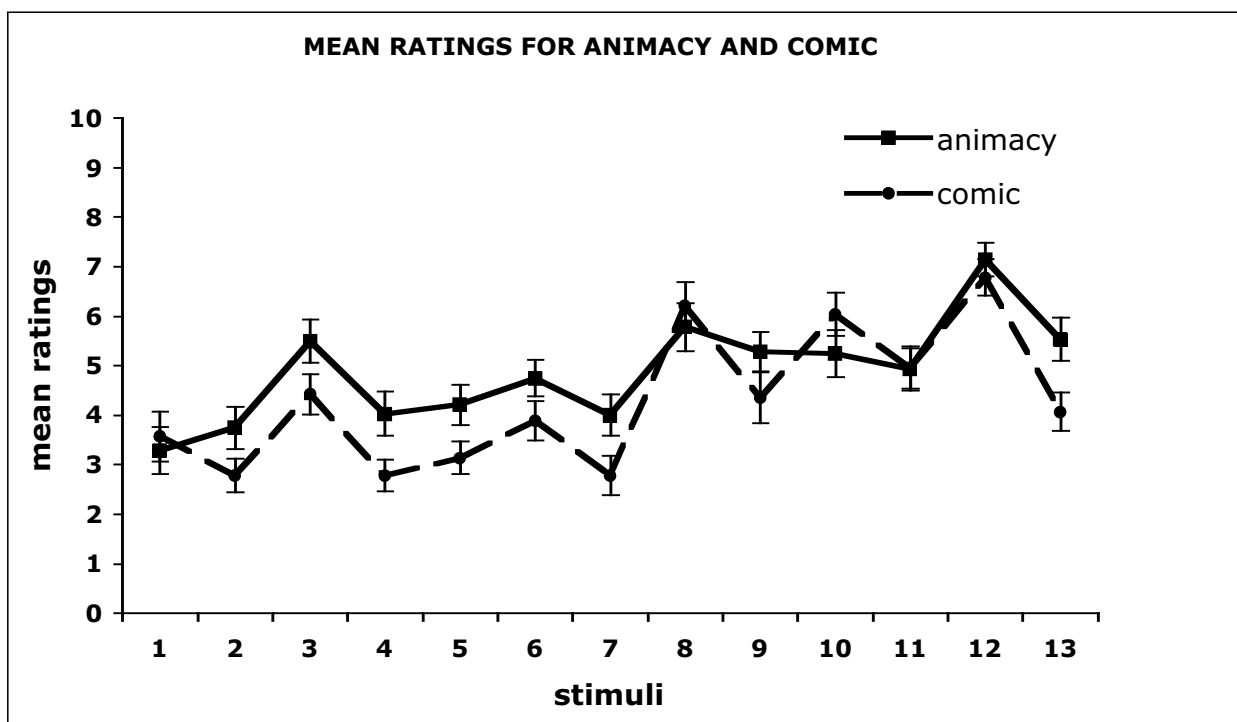


Fig. 2. Mean ratings and standard errors obtained for animacy (squares) and comic (circles) in the 13 stimuli used in the experiment.

Table 1. Correlation coefficients between animacy and comic ratings (N=28).

| Stimuli | r | Stimuli | r | Stimuli | r |
|---------|-------|---------|-------|---------|-------|
| 1 | .695* | 7 | .744* | 13 | .576* |
| 2 | .455* | 8 | .664* | | |
| 3 | .609* | 9 | .609* | | |
| 4 | .684* | 10 | .339 | | |
| 5 | .406* | 11 | .456* | | |
| 6 | .277 | 12 | .710* | | |

(*correlation coefficient significant at $p < .05$ level)

In order to understand the cases with a low correlation coefficient (see Stimuli 6 and 10), we compare the participants' descriptions with animacy and comic ratings. We found one source of noise in these stimuli as many subjects judged the first square, but not the second square, as an animated agent. Thus, it appears evident that in order to produce a funny reaction the whole event must be seen as a psychological or social causal event; otherwise it generates only a surprise reaction.

In sum, this pioneering work on comic perception confirms our hypothesis according to which causal paradigm with incongruity between cause and effect provokes comic impression if the two geometrical shapes are perceived as animate agents. While, if only a mechanical incongruity between cause and effect is perceived, the event can generate a surprise reaction, but comic impression is weaker.

We propose that paradoxical animacy - that is the juxtaposition of meaning between a geometrical and a psychological level - can account for comic impression in our stimuli, agreeing to bisociation theory by Koestler (1964). Another famous theoretical reference consistent with our hypothesis is the French philosopher Henri Bergson (1900/2008), according to which an inanimate object always elicits humor when it evokes human behavior, like a puppet, and vice-versa.

References

- Bergson, H. (1900). *Le rire. Essai sur la signification du comique*, Paris.
- Kanizsa, G., Vicario, G. (1968). The perception of intentional reaction. In G. Kanizsa & G. Vicario (Eds.). *Experimental research on perception* (pp. 71-126). Trieste, Italy: University of Trieste.
- Koestler, A. (1964). *The act of creation*. London: Hutchinson.
- Martin, R. A. (2007). *The Psychology of Humor: An integrative approach*. Burlington, MA: Elsevier Academic Press.
- Michotte, A. (1946). *La Perception de la Causalité*. Louvain: Publications Universitaires.
- Schlottmann, A. Allen, D., Linderoth, C., Hesketh, S. (2002). Perceptual causality in children. *Child Development*, 73, 6, 1656-1677.