Emotion in Good Luck

and Bad Luck:

Predictions from Simplicity Theory

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IAN MacKINNON

Lottery loser killed himself for just pounds 27

A man killed himself for pounds 27 after he mistakenly believed he and a friend had lost out on a pounds 2.7m National Lottery jackpot because he had forgotten to renew their ticket, an inquest was told yesterday.

Tim O'Brien, 51, a father of two, shot himself in the head in despair, Liverpool Coroner's Court was told. But it emerged that the tool-room servicer, married for 26 years, had made a tragic error and had only four of the six winning numbers.

Returning a verdict of suicide, the Merseyside coroner, Roy Barter, questioned the need for large jackpot payouts such as last week's pounds 22m and said they could be the source of future social problems.

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Examples

* Missing (or catching) the train by five seconds

* Forgetting one's cell phone the very day one is late for an important appointment

* Finding a banknote on the ground

* Having played the winning number, but a week too soon

Significance

* Essential source of emotion

* Elicits feelings such as gratitude or guilt

* Strengthens supernatural beliefs

* Influences rational judgment

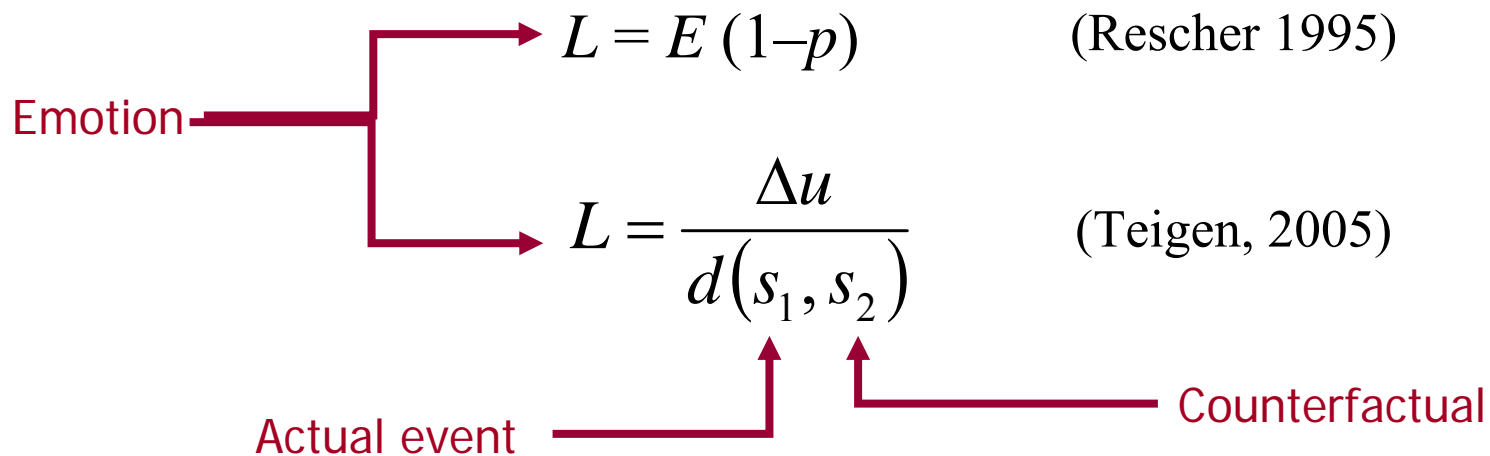"If only ..."

"I almost ..."

Relevant parameters

* Low "probability" of the (un)lucky event
* Deviation from norms and expectations
* Mutability of causes, controllabillity
* "Distance" to counterfactual
* Complexity of the counterfactual

Previous accounts

$$L = E\,(1-p)$$ (Rescher 1995)

Emotion

$$L = \frac{\Delta u}{d(s_1, s_2)}$$ (Teigen, 2005)

Actual event

Counterfactual

Simplicity Theory

Interesting situations are those which are 'too' simple
(this includes emotional situations)

$$U(s) = C_w(s) - C(s)$$

www.simplicitytheory.org

$$p = 2^{-U}$$

The complexity $C(s)$ of a situation s
is the size of the best summary of s
that is available to the observer.
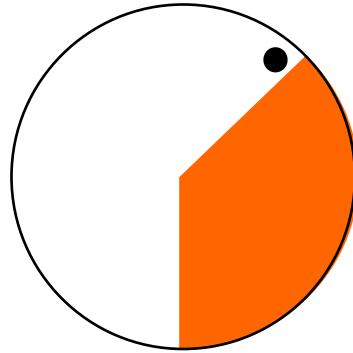
$$L = \Delta u + U(s_2) - C_{wc}(s_2|s_1)$$
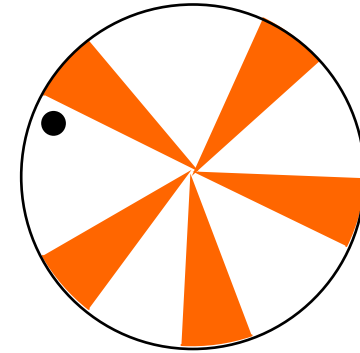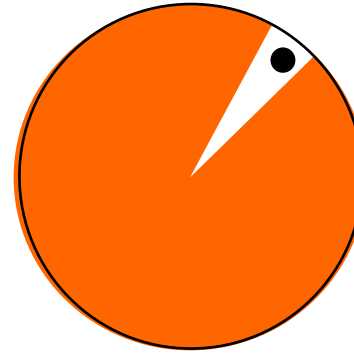
(Un)lucky events are situations that occurred despite of simple, easily accessible alternatives.

Wheel of fortune

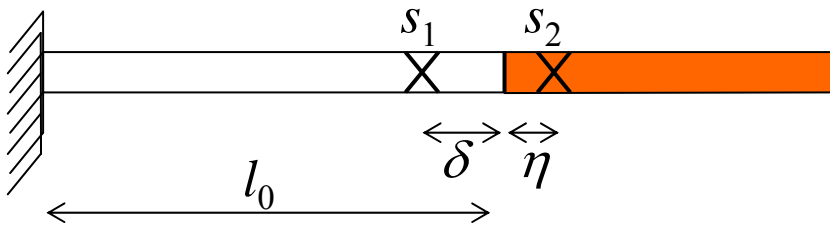$$L = \Delta u + \log_2 l_2/\delta - 2 - \log_2 k$$
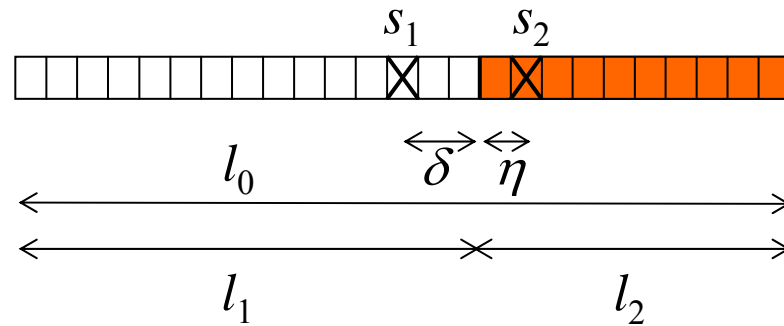
$$L = \Delta u + \log_2 l_0/\delta - 1$$

$$L1 = \Delta u + U(s1)$$

s_1 s_2

δ η

l_0

$$L = \Delta u + \log_2 l_2/\delta - 2$$

s_1 s_2

δ η

l_0

l_1 l_2

Nine Stories

This is a small narrative, adapted from a true story.
You may change some of its parameters.
Choose options that, in your view, will make the story most emotional.

Accident

Ms Tsuda told that her [14 ▾] years old daughter had invited [four friends of hers ▾]
to spend the afternoon in her house. One of them was late and Ms Tsuda worried.
She called her parents. According to them, the girl had left one hour earlier.
Their house is only 1.5 km away, but one must walk over a level crossing.
Ms Tsuda went toward the girl's house and she saw a gathering close to the station,
around the level crossing, located at [200 ▾] m from Ms Tsuda's house.
She rushed and learned that there was indeed an accident involving a young girl.
She comes closer and she can see the deathly pale face of a man wearing a uniform.
It was the train driver. It turned out that the invited girl was not involved and was late because
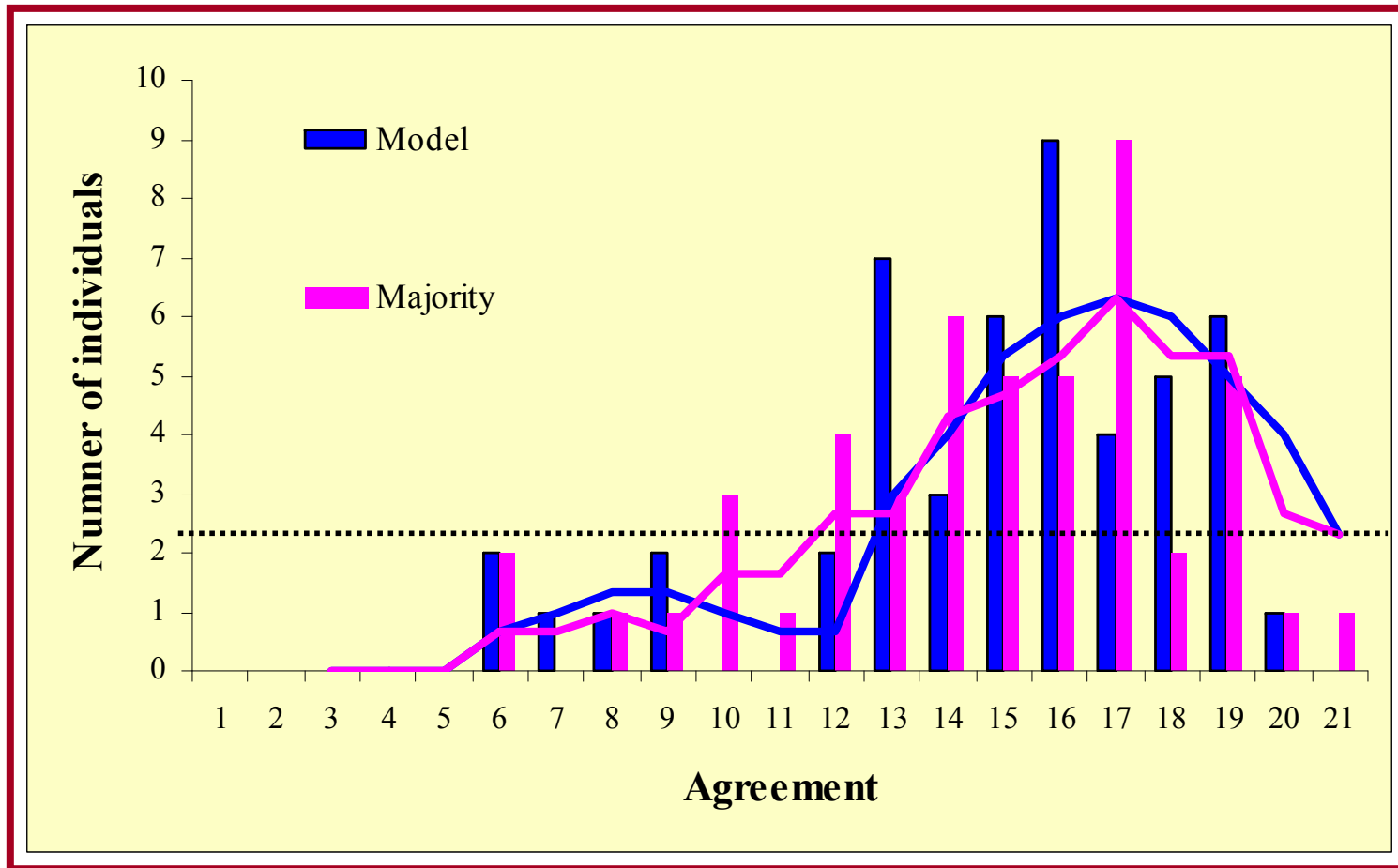she had to make a detour precisely because of the accident.

Nine Stories

S1- René is a railway worker. He works at the border, at a place where signals must me manually transmitted between the two networks. There is single-track line at [**9** (71*)/**23** (21)/**15** (7)] km from René's post. That day, René forgot to send the signal as a train crossed the border. He eventually did, but [**ten** (59*)/**fifty** (21)/**thirty** (20)] seconds before that, another train had entered the single-track line. The collision killed one of the two drivers.

S2- Lucas was heading for the metro station. At [**30** (71*)/**100** (20)/**800** (9)] m from the station, he stopped to lace up his shoe. As he arrived on the platform, the doors of the train closed in front of him. He had to wait [**25** (89*)/**15** (9)/**6** (2)] minutes for the next train.

S3- Michèle has been playing lotto every week for [**6** (84*)/**4** (11)/**2** (5)] years. On December [**19** (70*)/**3** (18)/**12** (12)], she told [**two** (60*)/**four** (32)/**three** (9)] friends of hers that she would stop playing. They persuaded her to bet for the special Christmas draw, on December 26. She did and won 62 000 Euros.

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Agreement with the model's predictions

Correlation = 0.90

CHOIX	HISTOIRE	PROPORTION
un de ses collègues professeurs	Malaise	% 26
un membre de son club de bridge	Malaise	% 25 = 51 %
une demi-heure	Malaise	% 77
9	Erreur de signalisation	% 71
dix	Erreur de signalisation	% 59
25	Le train de banlieue	% 89
30 mètres	Le train de banlieue	% 71
19	Le loto	% 70
6	Le loto	% 84
deux	Le loto	% 60
8 novembre	Accident de travail	% 75
2 ans	La panne	% 84
de son voisin	La panne	% 67
L'ensemble des boîtes contenant	La panne	% 35
8	Diagnostic	% 66
dans les médias, car un chanteur connu venait d'en mourir	Diagnostic	% 52
sept	Diagnostic	% 79
1500	Le téléphone	% 55
4000	Le téléphone	% 38 = 93 %
Jeudi soir	Le téléphone	% 74
quatre mois	Le téléphone	% 76
200	Passage à niveau	% 55
deux de ses amies	Passage à niveau	% 71