Coincidences and the Encounter Problem

A Formal Account

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"creepy coincidences" between Abraham Lincoln and John F. Kennedy

"Lincoln was elected to Congress in 1846, Kennedy was elected to Congress in 1946."
"Lincoln was elected president in 1860, Kennedy was elected president in 1960."
"Both presidents have been shot in the head in presence of their wives."
"Both successors were named Johnson, born in 1808 and 1908."
"Kennedy was shot in a car named Lincoln."

...  

\[ U(e_1 * e_2) = C_w(e_1 * e_2) - C(e_1 * e_2) \]

\[ U(e_1 * e_2) \geq C_w(e_1) + C_w(e_2) - C(e_1) - C(e_2 | e_1) \]

\[ U(e_1 * e_2) = C(e_1) - C(e_2 | e_1) \]

To be explained:
- Role of close analogy
- Role of mere association
- Role of round numbers
- Role of prominence

- Lincoln's name has 7 letters - Kennedy's name has 7 letters
- Lincoln was elected to Congress in 1846 - Kennedy was elected to Congress in 1960
- Lincoln was elected president in 1860 - Kennedy was elected president in 1960
- Kennedy had a secretary named Lincoln
- Lincoln's assassin had a three-worded name, John Wilkes Booth - Kennedy's alleged assassin had a three-worded name, Lee Harvey Oswald
- John Wilkes Booth was born in 1839 - Lee Harvey Oswald was born in 1939
- Lincoln was shot in a theatre named Ford - Kennedy was shot in a car made by Ford
- Kennedy was shot in a car named Lincoln
- Lincoln's bodyguard was away from his post at the door of the President's box at the theatre - Kennedy's bodyguards were away from their posts on the running-boards of the President's car
- Lincoln was sitting beside his wife when he was shot - Kennedy was sitting beside his wife when he was shot
- Lincoln was shot on a Friday - Kennedy was shot on a Friday
- Lincoln was shot in a theatre named Ford - Kennedy was shot in a car made by Ford
- Lincoln's assassin had a three-worded name, John Wilkes Booth - Kennedy's alleged assassin had a three-worded name, Lee Harvey Oswald
- John Wilkes Booth was born in 1839 - Lee Harvey Oswald was born in 1939 (false: Boothe was born in 1838)
- Lincoln and Kennedy died in places beginning with the initials P and H - Lincoln died in Petersen's house - Kennedy died in Parkland Hospital
- Booth was shot and killed in police custody before going to trial - Oswald was shot and killed in police custody before going to trial
- Kennedy's funeral was modelled on Lincoln's funeral
- Andrew Johnson was a heavy drinker with crude behaviour - Lyndon Johnson was a heavy drinker with crude behaviour
- There were conspiracy theories that Johnson was knowledgeable about Lincoln's assassination - There were conspiracy theories that Johnson was knowledgeable about Kennedy's assassination
- Days before it happened Lincoln told his wife and friends about a dream he'd had of being shot by an assassin - Hours before it happened Kennedy told his wife and friends it would be easy for an assassin to shoot him from a crowd
- Shortly after Lincoln was shot the telegraph system went down - Shortly after Kennedy was shot the telephone system went down
- Kennedy's father had been the Ambassador to England at the Court of St James - Lincoln's son became the Ambassador to England at the Court of St James
- Lincoln and Kennedy were 2 of the greatest presidents of the nation
- Lincoln's wife tastefully and expensively re-decorated the White House - Kennedy's wife tastefully and expensively re-decorated the White House
- Lincoln loved great literature and could recite poetry by heart - Kennedy loved great literature and could recite poetry by heart
- Lincoln had young children while living at the White House - Kennedy had young children while living at the White House
- Lincoln's wife had ponies they rode on the White House grounds - Kennedy's daughter had a pony she rode on the White House grounds
- Lincoln lost a child (12 year old son) to death while President - Kennedy lost a child (newly born son) to death while President
- Lincoln let his children run and play in his office - Kennedy let his children run and play in his office
- After Lincoln's assassination the nation experienced an emotional convulsion - After Kennedy's assassination the nation experienced an emotional convulsion
JERUSALEM -- Now that's a lucky number. For the second time in a month, Israel's biweekly national lottery produced the same winning combination: 13, 14, 26, 32, 33 and 36. The results of Saturday night's draw were identical to those of Sept. 21.

Chairman of Israel's National Lottery Authority, Saul Sutnik, called the outcome a "rare probability" and said the results were checked several times to verify them.
Double suicide by drowning

Surprise, suspense and perplexity for the coastguards of Nice and the police officers of the Antibes police station, who were confronted with a quite unusual enigma: they discovered in the Baie des Anges, in the afternoon, the floating bodies of two women in late middle age wearing elegant clothes. [...]

In fact, an extraordinary coincidence would have led two women of similar age, ignorant of each other, to choose the same day, keeping their very elegant dresses, to go in the morning to drown themselves almost simultaneously at the same place.

(Le Figaro, 20 March 2004)

To be explained:

- Role of allocentric proximity
  - in time
  - in space

- Role of egocentric proximity
  - in time
  - in space

- Role of similarity
  - age
  - clothing

- Role of causality
  - ‘ignorant of each other’
Fortuitous encounters

To be explained:

- The coincidence is more impressive if...
  - one meets a close friend
  - one meets a celebrity
- The coincidence is more impressive if...
  - the place is remote (hard to find)

Example 4: coincidence of birthdays

To be explained:

- Self-coincidences are more surprising than comparable coincidences that happen to others.

Vous êtes !

On se connaît

Non mais quand même... quel hasard !
**Unexpectedness**

Complexity $C(s)$ of $s$: size of the smallest available description of $s$

Complexity required for generating the situation

Complexity of the minimal computation

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

$p = 2^{-U}$

probability
Predicting the cognitive effect of coincidences

\[ U(e_1 * e_2) \geq C_w(e_1) + C_w(e_2) - C(e_1) - C(e_2 | e_1) \]

\[ U(e_1 * e_2) = C(e_1) - C(e_2 | e_1) \]

**Egocentric effects:**
\[ U(Q*e_1*e_2) = -C(Q) + U(e_1|Q) + U(e_2|e_1) \]
\[ U(ego*e_1*e_2) = U(e_1|ego) + U(e_2|e_1) \]
\[ U(s_1*s_2) = -\log (D_v^2 v_e v_d) + \ldots \]

**Fortuitous encounters**
\[ C_w(ego*P*l(ego)*l(P)) = 2 C_w(l(ego)) \]
\[ C(ego*P*l(ego)*l(P)) = C(P) + C(l) \]
\[ U(l(ego)*P*l(P)) \geq C(l) - C(P) \]

*La pertinence et ses origines cognitives*
Hermes-Science