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Background

Elections rely heavily on the integrity of voters but how are we able to ensure voter security and maintain an honest conclusion of an election when ballot designs don't adequately support human perception and cognition?

Compromised elections have been solely considered to be a security issue but it has been observed that psychological sciences may play a more serious role in elections than was previously believed.

Ballot layouts and design that do not adequately support the human-ballot interaction that occurs in the voting booth can threaten the will of voters and impact the integrity of an election

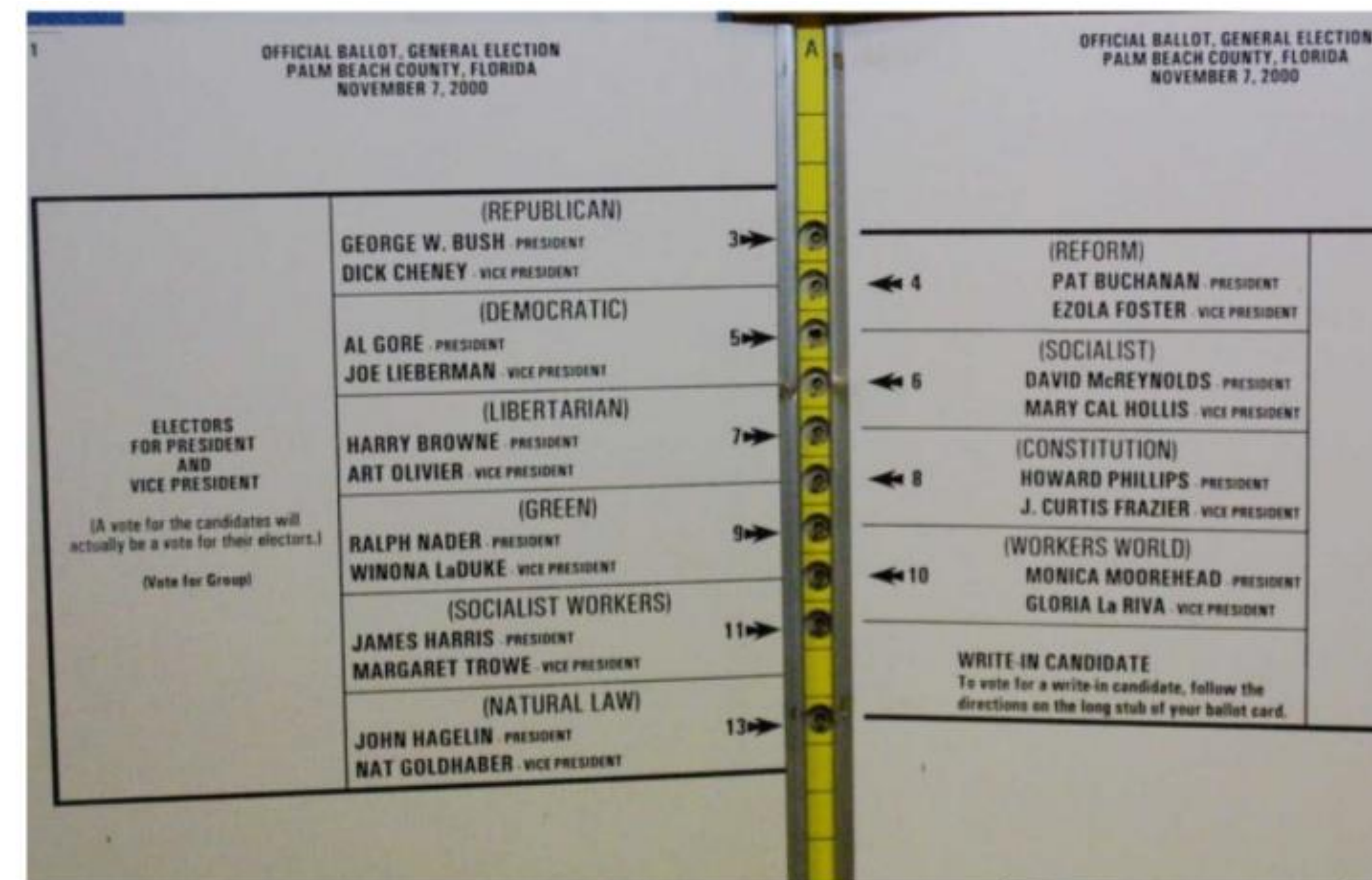


Fig 1. Butterfly Ballot from the Bush vs Gore Election

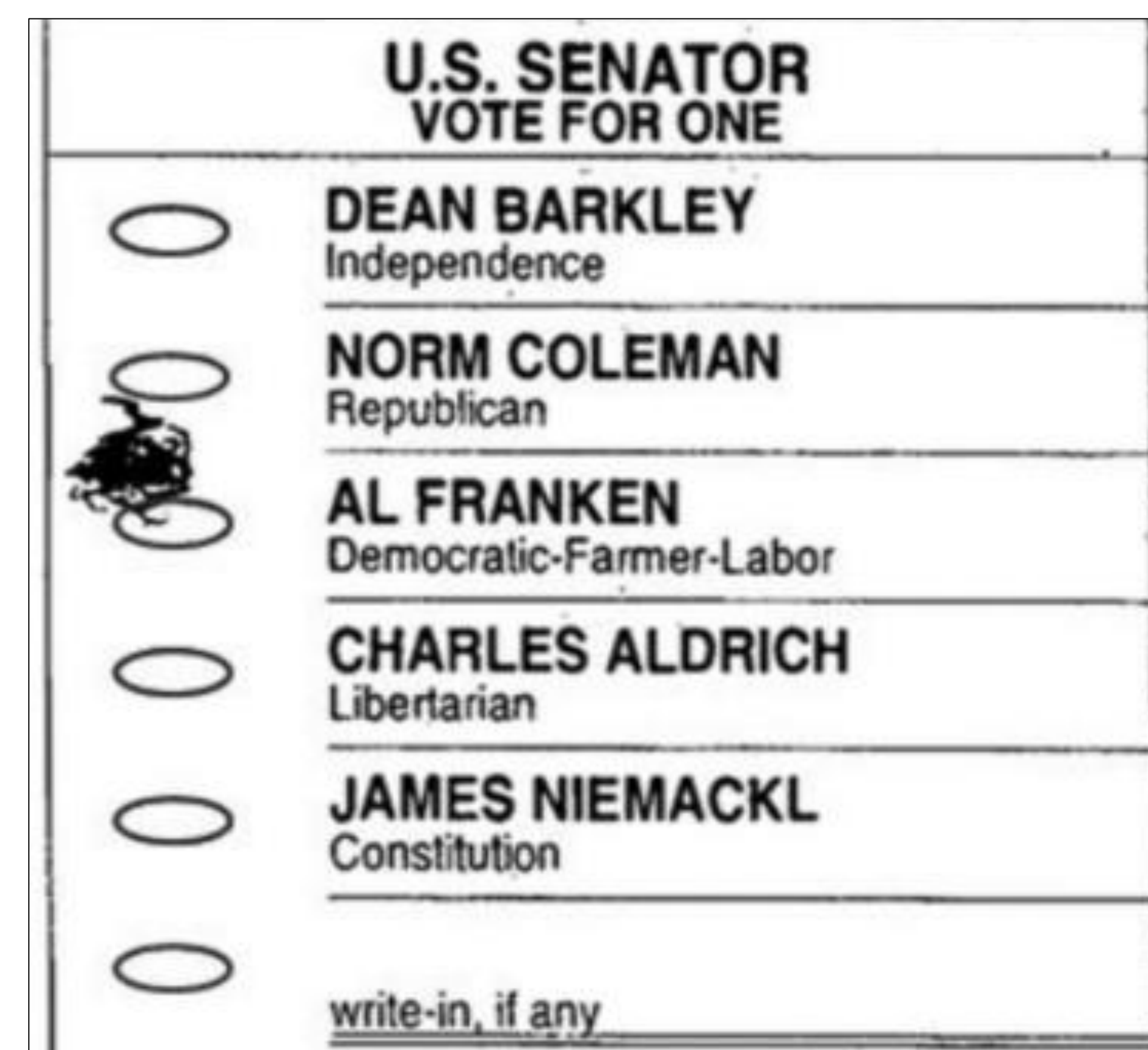


Fig 2. Ambiguous vote from the 2008 US Minnesota Senate Election

The Case of Butterfly Ballot

In the 2000 presidential election between Bush and Gore, butterfly ballots were used in Florida

- To decipher this ballot, voters would count down from the top bullet
- Having races on both sides caused voters who intended to vote for Al Gore to actually end up voting for Bush instead
- Statistical analysis has demonstrated that this discrepancy probably cost Al Gore the election

The Ambiguous Selection

- There have been many occasions where the race was so close that the ballots were called for recount but the **intent** of the voter was unclear - See Fig. 2
- In the 2008 US Minnesota senate election, with only 300 votes separating the top candidates, out of over 2.8 million votes, and several thousand paper ballots were nearly impossible to decipher
- The recount concluded that Franken had won, swaying the initial Coleman win

References

Kortum, P. and Byrne, M. D. (2016). The Importance of Psychological Sciences in a Voter's Ability to Cast a Vote. *Association for Psychological Sciences*, Vol. 25(6) 467-473.

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Implications of Future Research

With all the examples where election integrity has been compromised due to the poor layout and design of paper ballots, this urges research to also investigate the role of psychological science in electronic voting devices and observe the interactions voters have with these devices.