

Lectal contamination

Evidence from corpora and from agent-based simulation

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Appendix A. Degree of lectal contamination during the final 1000 points in time, in simulational runs of 100000 points in time, under different settings of the initial morphosyntactic preference parameter m_B , whereby the difference $\Delta m = m_A - m_B$ varies

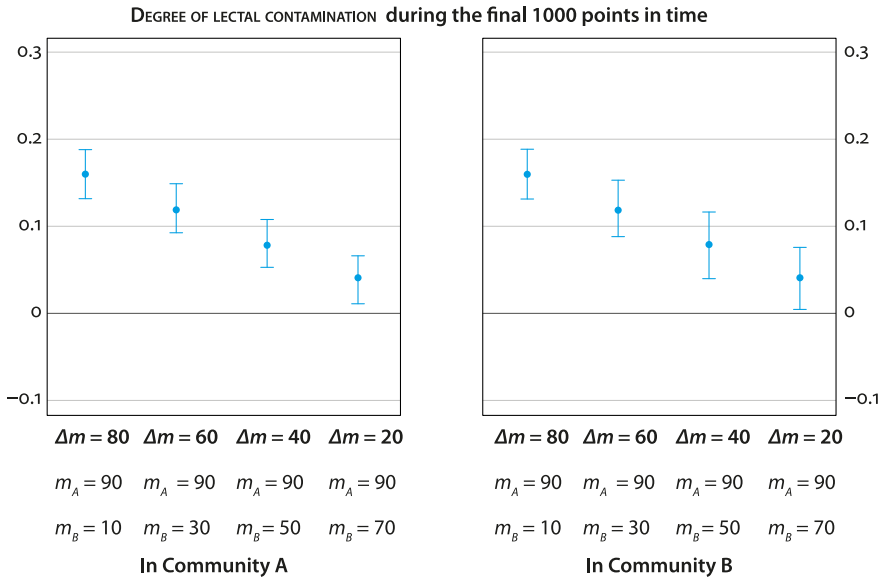


Figure 9.

The average results over 100 simulational runs for different Δm are shown, with the whiskers indicating the minima and maxima. All parameter settings other than m_B are kept constant at $m_A = 90$, $l_A = 80$, $l_B = 20$, $n = 100$, $a = 0.5$ and $h = 0.01$. The larger the difference in initial morphosyntactic preference between the communities, the larger the resulting effect of lectal contamination in both communities.

Appendix B. Degree of lectal contamination during the final 1000 points in time, in simulational runs of 100000 points in time, under different settings of the initial morphosyntactic preference parameters m_A and m_B , whereby the difference $\Delta m = m_A - m_B$ remains constant

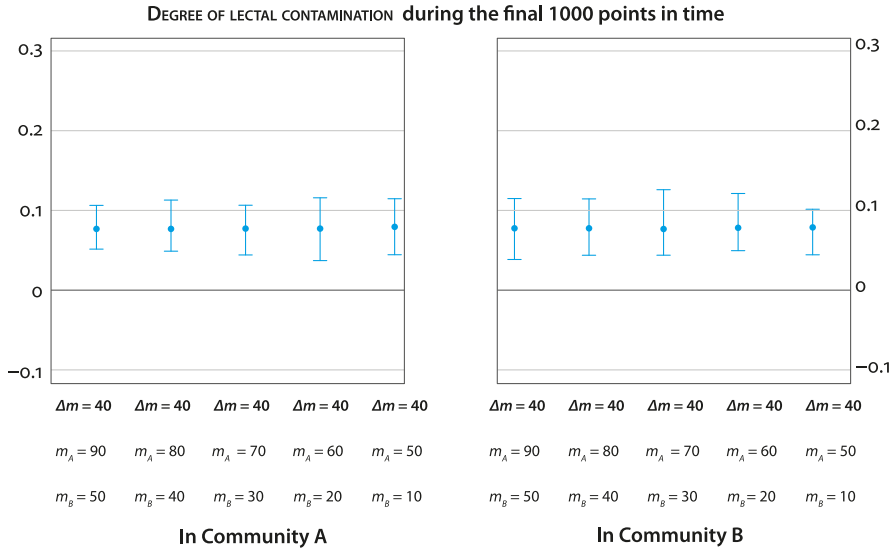


Figure 10.

The average results over 100 simulational runs for each setting of m_A and m_B are shown, with the whiskers indicating the minima and maxima. All other parameter settings are kept constant at $l_A = 80$, $l_B = 20$, $n = 100$, $a = 0.5$ and $h = 0.01$. As long as the difference in initial morphosyntactic preference remains constant, the resulting effect of lectal contamination in both communities seems to remain at the roughly same level.

Appendix C. Degree of lectal contamination during the final 1000 points in time, in simulational runs of 100000 points in time, under different settings of the initial lexical preference parameter l_B , whereby the difference $\Delta l = l_A - l_B$ varies

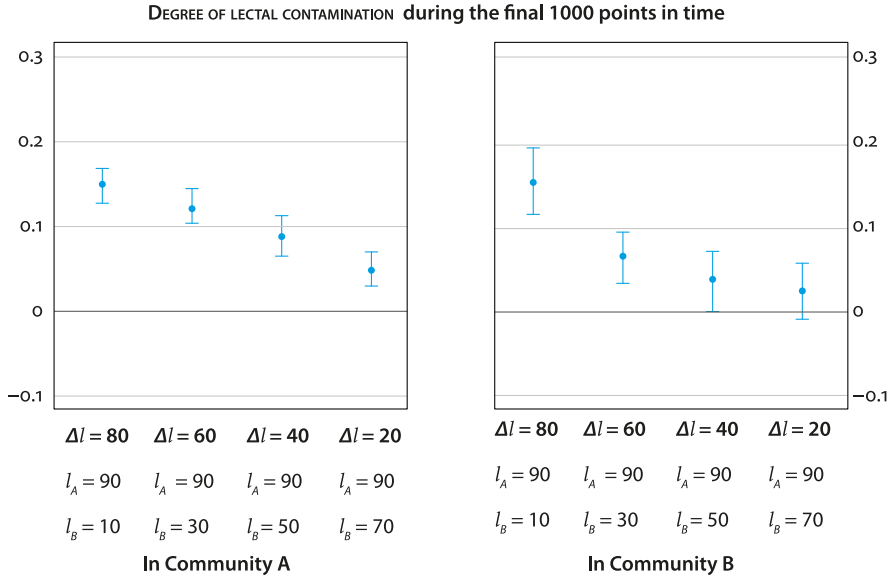


Figure 11.

The average results over 100 simulational runs for different Δl are shown, with the whiskers indicating the minima and maxima. All parameter settings other than l_B are kept constant at $l_A = 90$, $m_A = 100$, $m_B = 60$, $n = 100$, $a = 0.5$ and $h = 0.01$. The larger the difference in initial lexical preference between the communities, the larger the resulting effect of lectal contamination in both communities.

Appendix D. Degree of lectal contamination during the final 1000 points in time, in simulational runs of 100000 points in time, under different settings of the initial lexical preference parameters l_A and l_B , whereby the difference $\Delta l = l_A - l_B$ remains constant

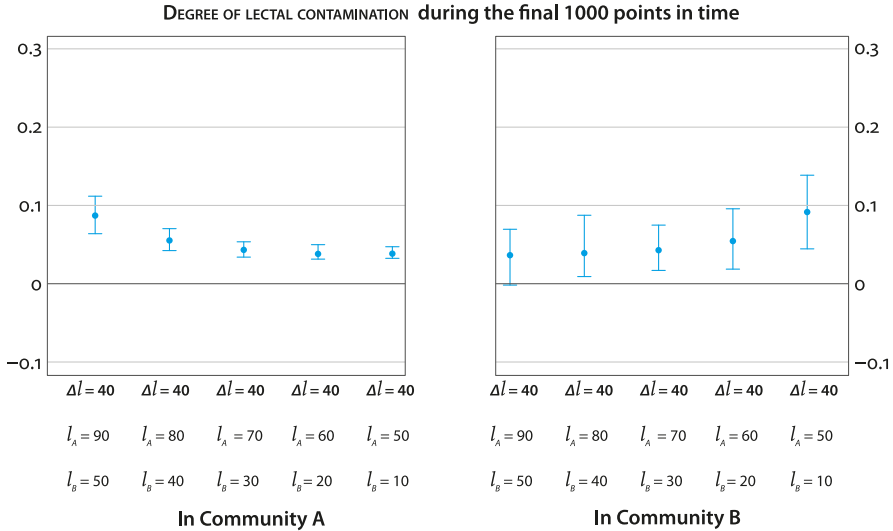


Figure 12.

The average results over 100 simulational runs for each setting of l_A and l_B are shown, with the whiskers indicating the minima and maxima. All other parameter settings are kept constant at $m_A=100$, $m_B=60$, $n=100$, $a=0.5$ and $h=0.01$. As long as the difference in initial lexical preference remains constant, the resulting effect of lectal contamination in both communities seems to remain at a roughly similar level. The minimum and maximum results diverge more strongly in the community that has the least extreme morphosyntactic preference, viz. Community B. In addition, there appears to be a slightly stronger effect of lectal contamination in the community with the more extreme lexical preference, i.e. Community A when $l_A=90$ and Community B when $l_B=10$.

Appendix E. Degree of lectal contamination during the final 1000 points in time, in simulational runs of 100000 points in time, under different settings of the population size parameter n

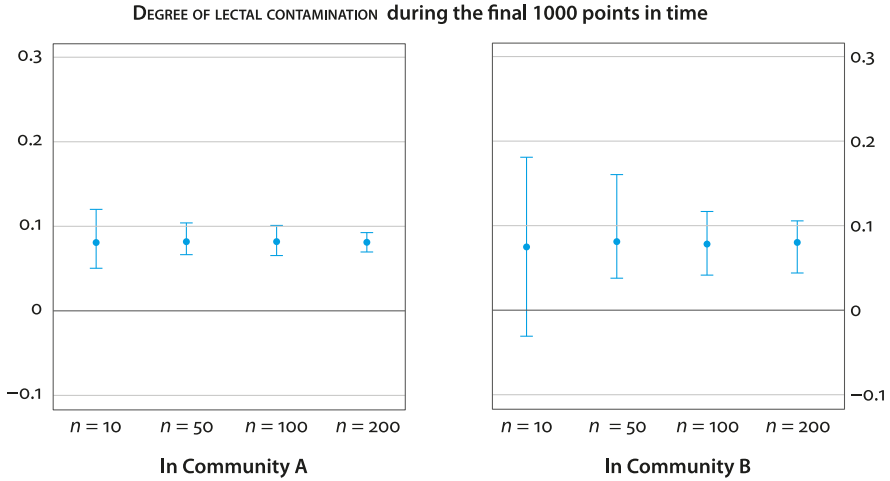


Figure 13.

The average results over 100 simulational runs for each setting of n are shown, with the whiskers indicating the minima and maxima. All other parameter settings are kept constant at $m_A=100$, $m_B=60$, $l_A=80$, $l_B=20$, $a=0.5$ and $h=0.01$. The total size of the population does not seem to affect the resulting average degree of lectal contamination. The minimum and maximum results do diverge more strongly in the community that has the least extreme morphosyntactic preference, viz. Community B. In addition, the larger the population size, the less the results of the 100 simulational runs of a single batch diverge, due to the law of large numbers. That is, the larger the population, the more interactions take place at a single point in time, and the more the probabilistic production decisions made by agents balance each other out.

Appendix F. Degree of lectal contamination during the final 1000 points in time, in simulational runs of 100000 points in time, under different settings of the relative population size parameter a

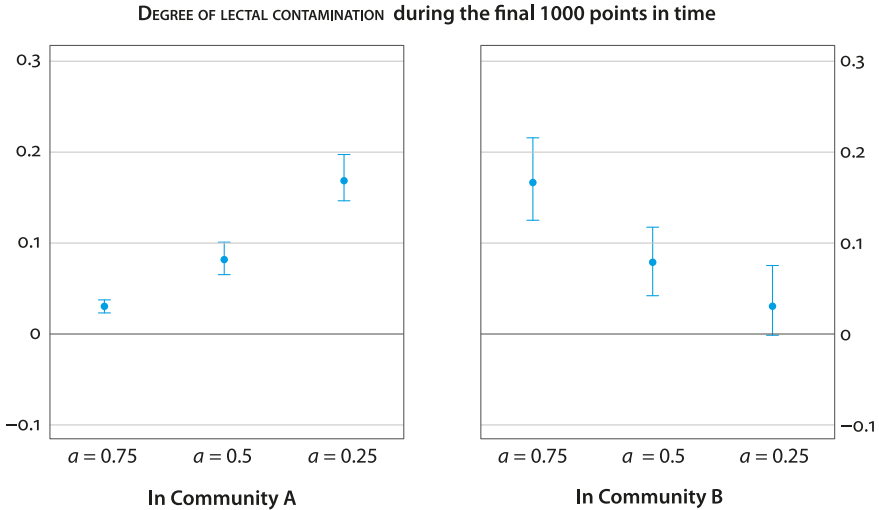


Figure 14.


The average results over 100 simulational runs for each setting of a are shown, with the whiskers indicating the minima and maxima. All other parameter settings are kept constant at $m_A=100$, $m_B=60$, $l_A=80$, $l_B=20$, $n=100$ and $h=0.01$. The effect of lectal contamination is larger in the smaller community. In addition, the minimum and maximum results diverge more strongly in the community that has the least extreme morphosyntactic preference, viz. Community B.

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