

NLP Applications in Political Science

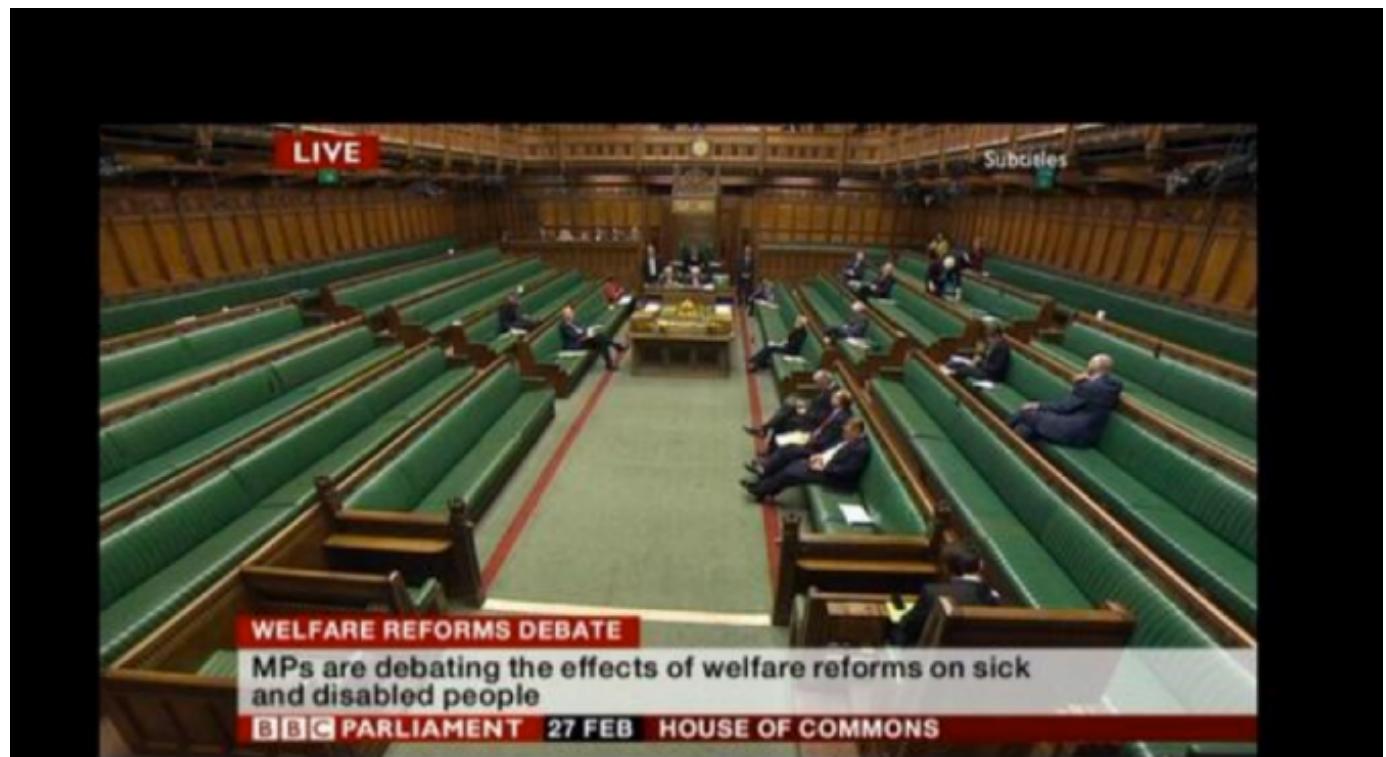
Slava Jankin Mikhaylov

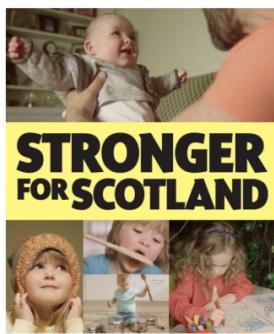
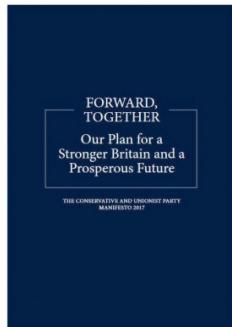


BREAKING NEWS AIRSTRIKES VOTE

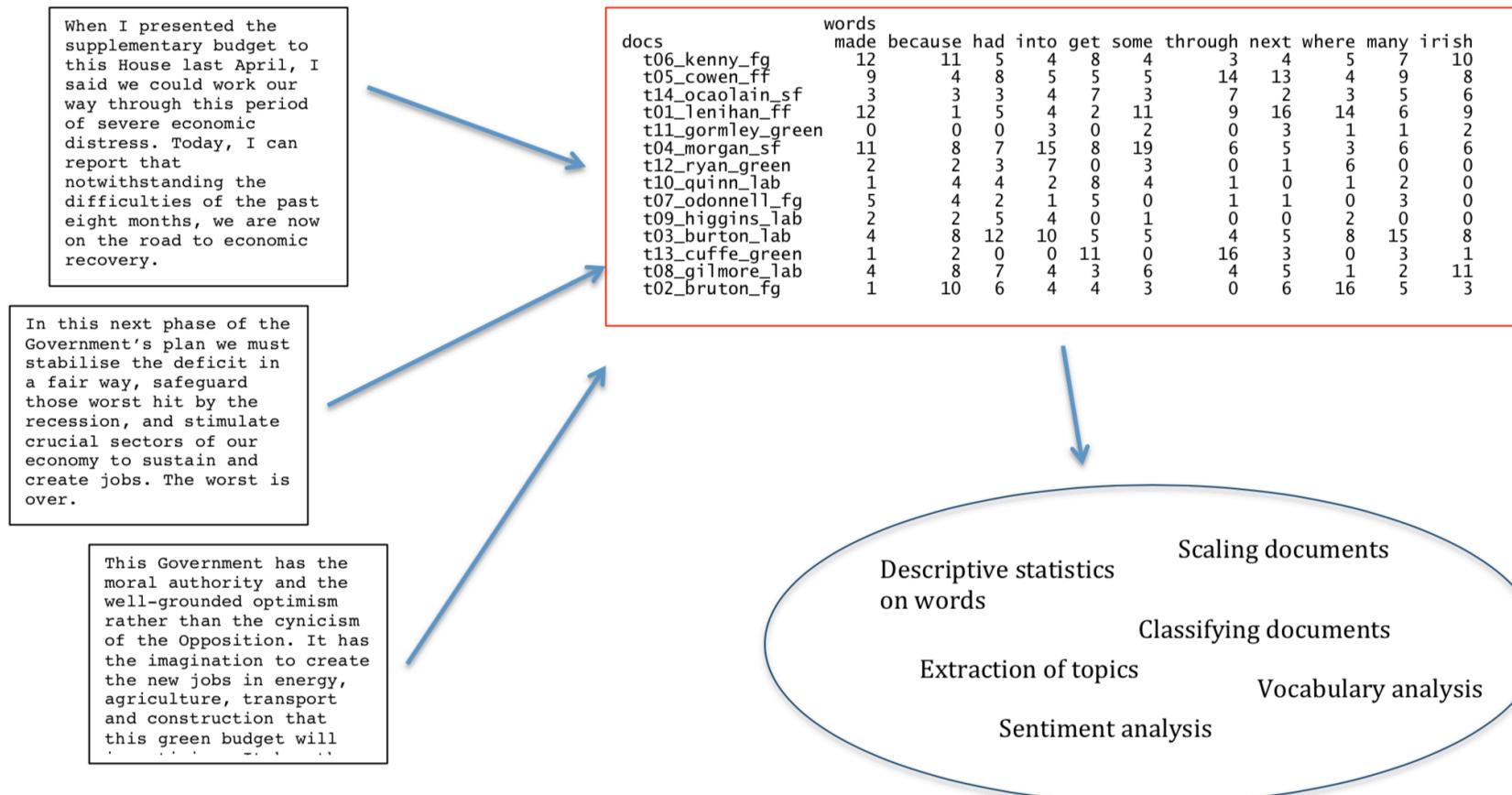
MPs ARE DEBATING WHETHER BRITAIN
WILL EXTEND AIRSTRIKES INTO SYRIA

skynews.com OF COMMONS AND WILL VOTE ON WHETHER BRITAIN SHOULD EXTEND RAF AIRSTRIKES INTO SYRIA BREAKING N





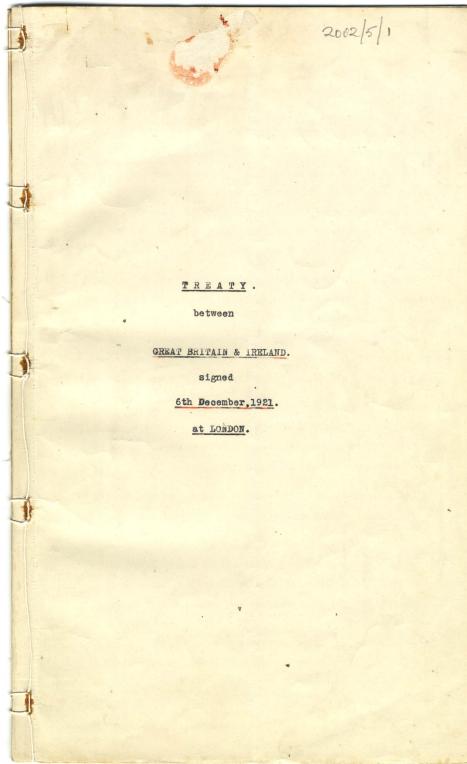
Basic workflow



Parliamentary debates



“in the beginning there was the Treaty...”



2002/5/

in Southern Ireland since the passing of the Government of Ireland Act, 1920, and for constituting a provisional Government, and the British Government shall take the steps necessary to transfer to such provisional Government the powers and machinery requisite for the discharge of its duties, provided that every member of such provisional Government shall have signified in writing his or her acceptance of this instrument. But this arrangement shall not continue in force beyond the expiration of twelve months from the date hereof.

18. This instrument shall be submitted forthwith by His Majesty's Government for the approval of Parliament and by the Irish signatories to a meeting summoned for the purpose of the members elected to sit in the House of Commons of Southern Ireland, and if approved shall be ratified by the necessary legislation.

*On behalf of the Irish
Delegation* *On behalf of the British
Delegation*

Michael O'Carroll *W. R. George*
Robt. Briscoe *Austerlitz Chamberlain*
Erinmore *R. D. Vernon*
Seán T. O'Kelly *Brudenell*
Samuel Bealín an Óuirceag

December 6, 1921.

L. S. *Winston Churchill*



THE TREATY

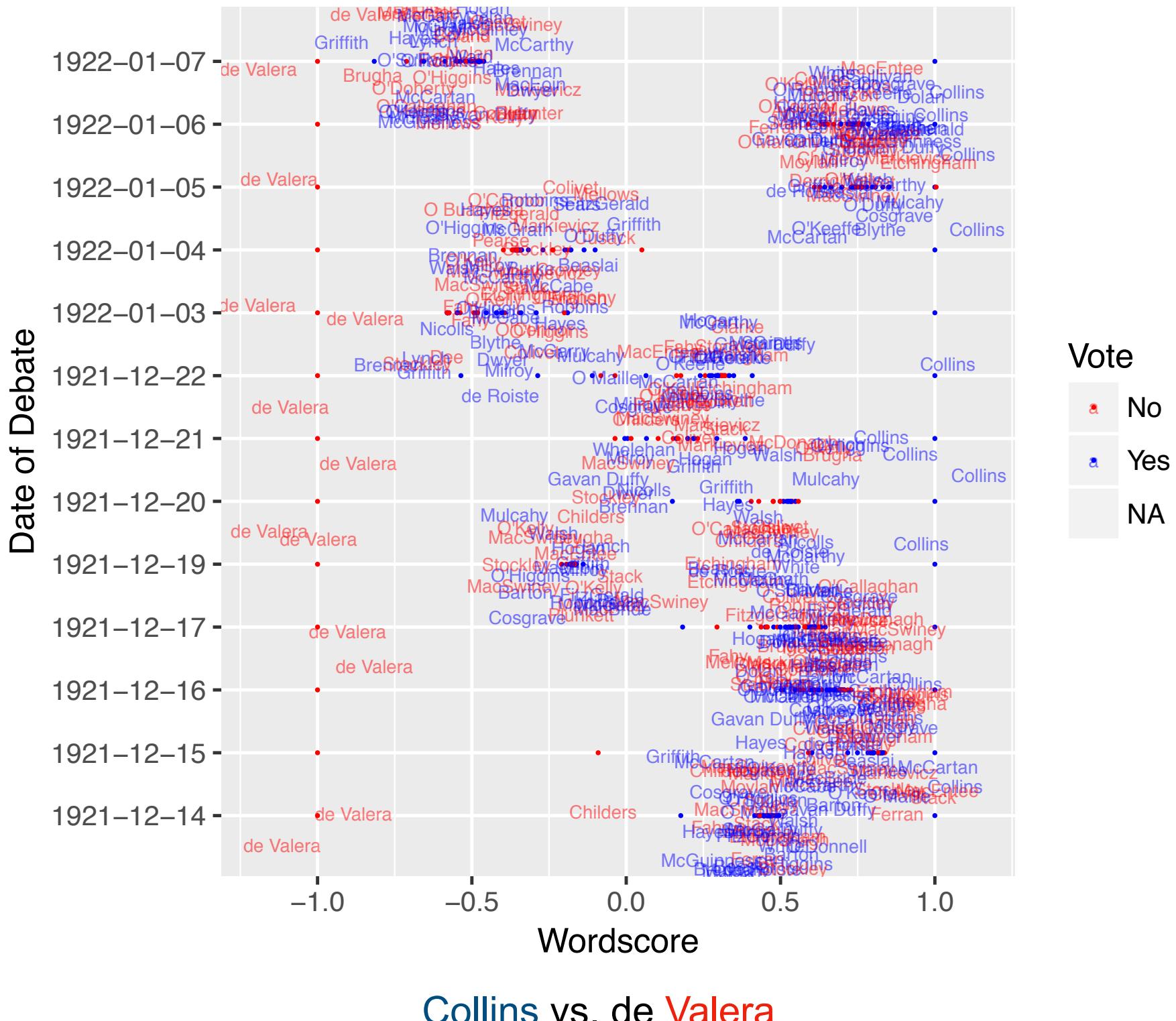
DEBATING AND ESTABLISHING THE IRISH STATE

DEBATING AND ESTABLISHING THE IRISH STATE

EDITED BY

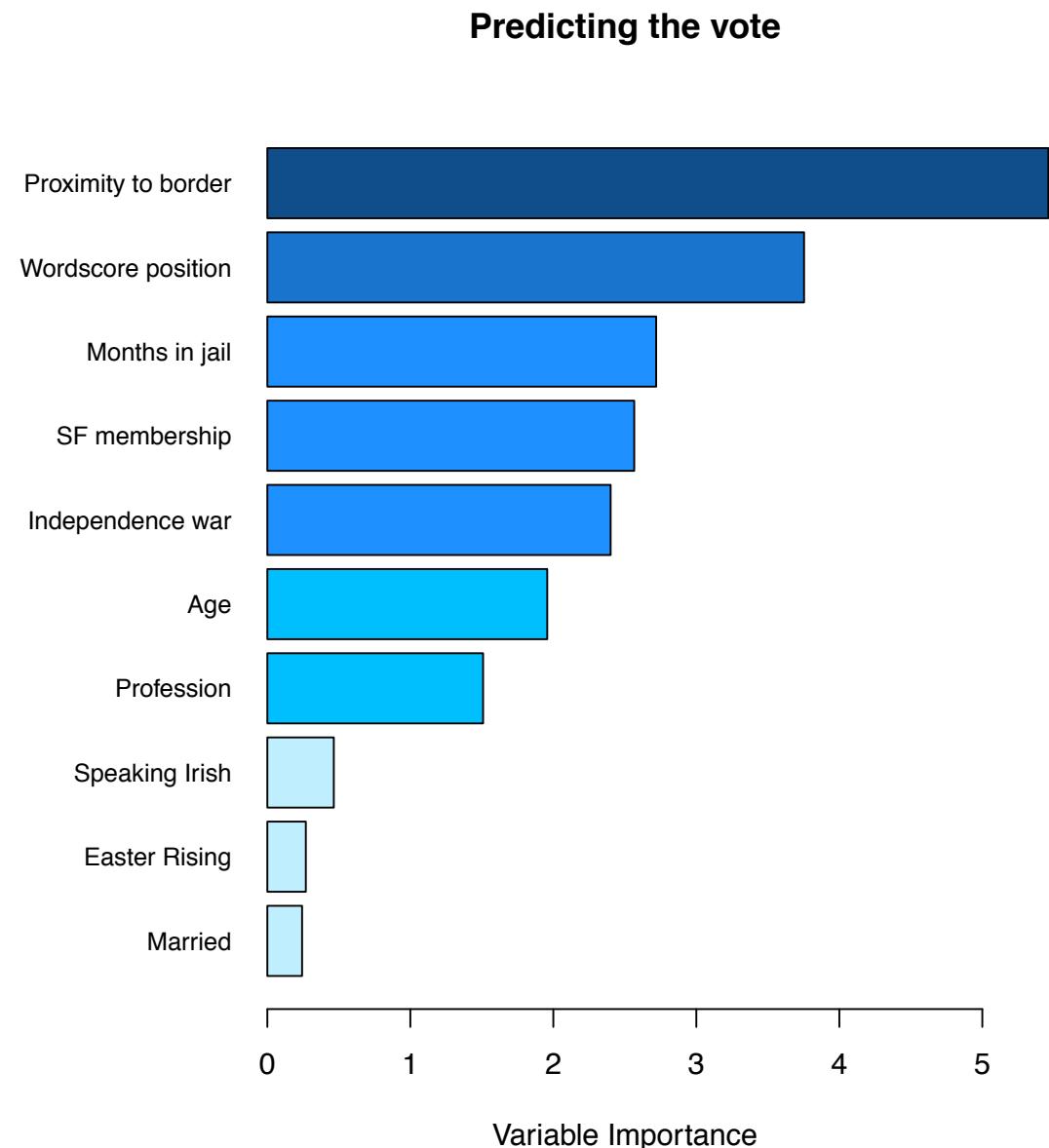
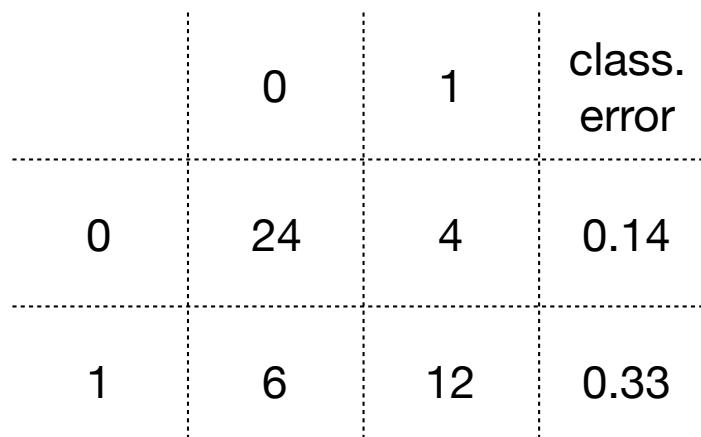
LIAM WEEKS AND MÍCHEÁL Ó FATHARTAIGH





Predicting the Treaty vote

- Random Forest model
- Out-of-bag error rate 21.74%
- Confusion table:

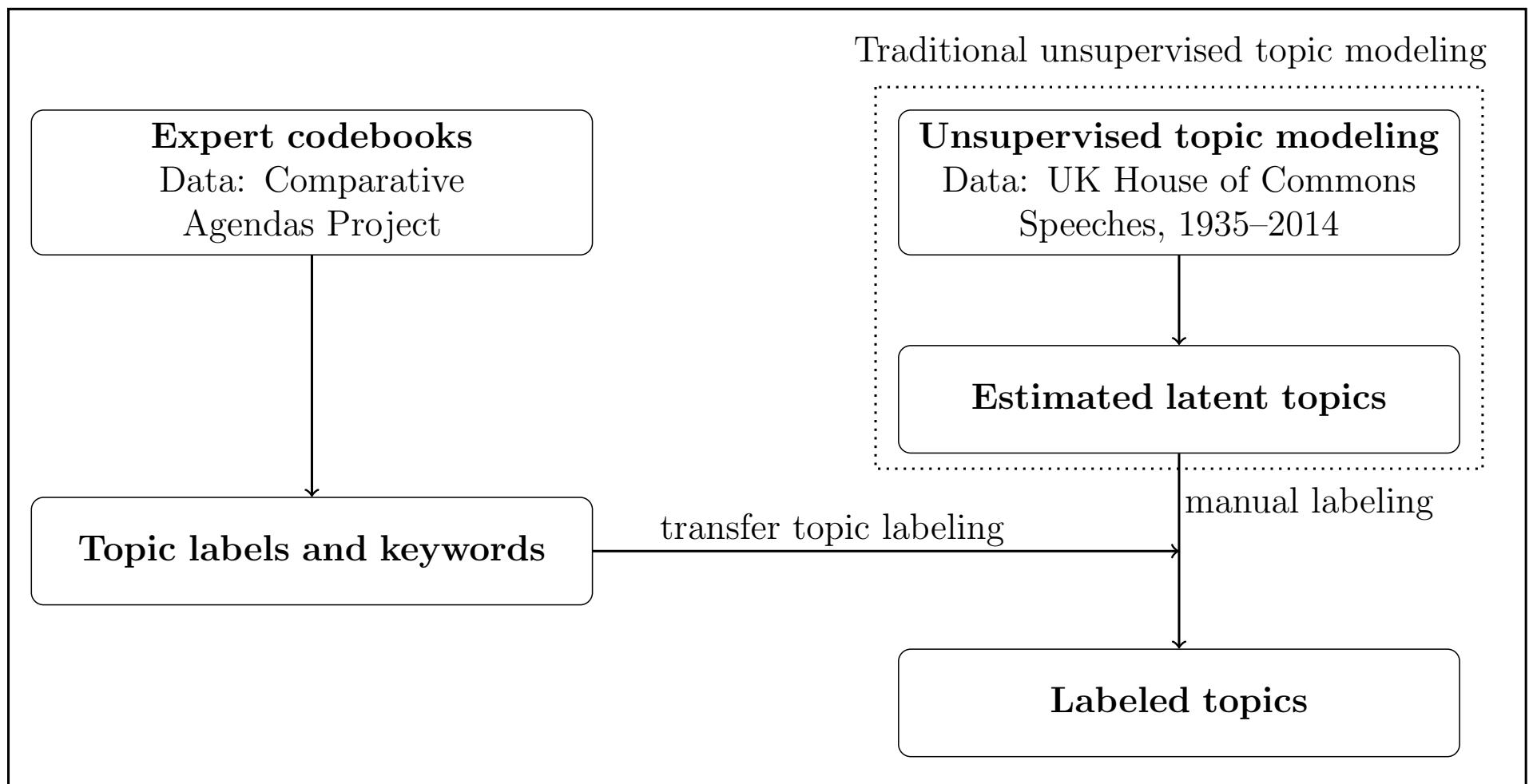




Transfer Topic Labeling

<https://arxiv.org/abs/1806.00793>

Unsupervised topic modeling with transfer topic labeling



Transfer Labeling

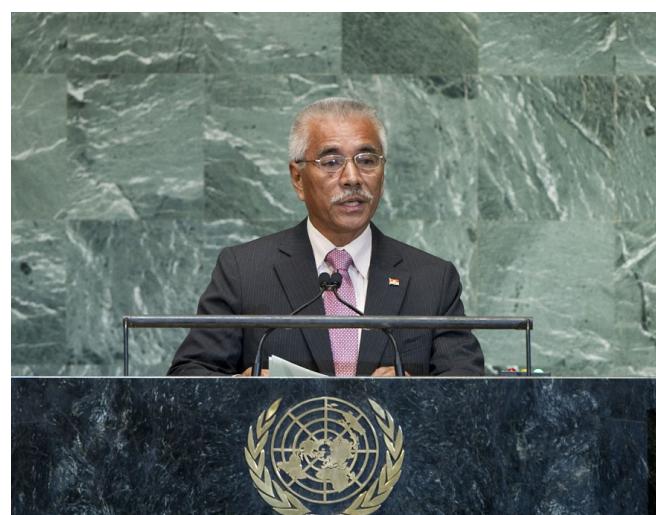
Jaccard index

$$J(A, B) = \frac{|A \cap B|}{|A \cup B|}$$

A: Set of top k words from an estimated topic

B: Set of weighted keywords from a Comparative Agendas Project topic

NLP in International Relations



UNGDC

<https://github.com/sjankin/UnitedNations>

- All speeches from 1970 to 2017.
- United Nations Dag Hammarskjold Library: English version.
- 7,897 statements.
- UN membership: 70 (1970) and 193 (2017).
- On average 123 sentences, 945 unique forms, and 3,248 individual words each.

The meeting was suspended at 11.25 a.m. and resumed at 11.50 a.m.

ADDRESS BY MR. GEORGE BUSH, PRESIDENT OF THE UNITED STATES OF AMERICA

The PRESIDENT: The Assembly will now hear an address by the President of the United States of America.

Mr. George Bush, President of the United States of America, was escorted into the General Assembly Hall.

The PRESIDENT: On behalf of the General Assembly I have the honour to welcome to the United Nations the President of the United States of America, His Excellency Mr. George Bush, and to invite him to address the General Assembly.

President BUSH: I am honoured to address the General Assembly today at the beginning of its forty-fourth session. I should like to congratulate Joseph Garba of Nigeria, a distinguished diplomat, on his election as President of this session of the General Assembly, and I wish him success in his presidency.

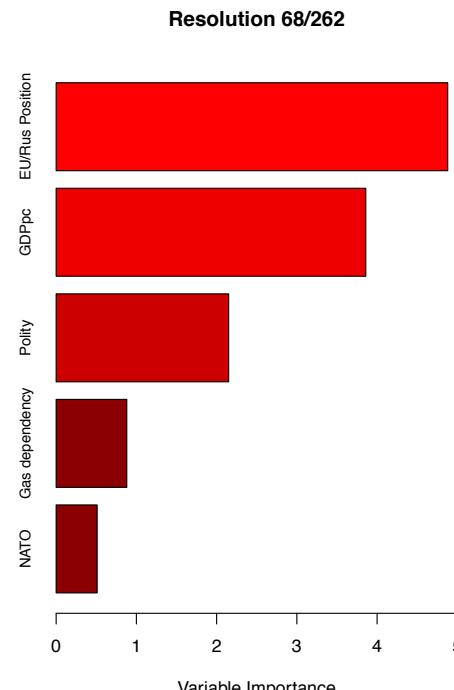
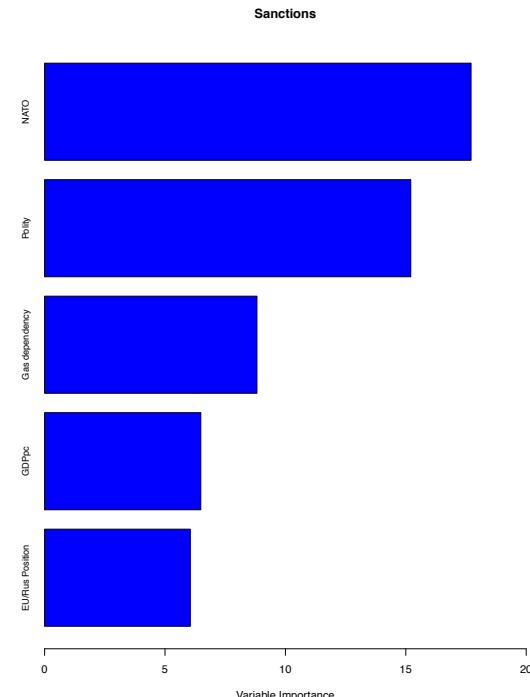
I feel a great personal pleasure on this occasion, for this is a homecoming

Conflict Prediction



Ukraine Territorial Integrity

- Vote on Resolution 68/262; Sanctions.
- Random forest estimation.
- Out-of-bag test error rate 7.78%.
- Variable importance - aggregate improvement in the optimization objective for each predictor.



Rhetorical links and policy

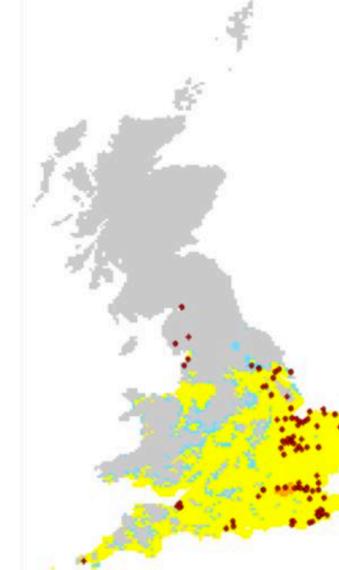
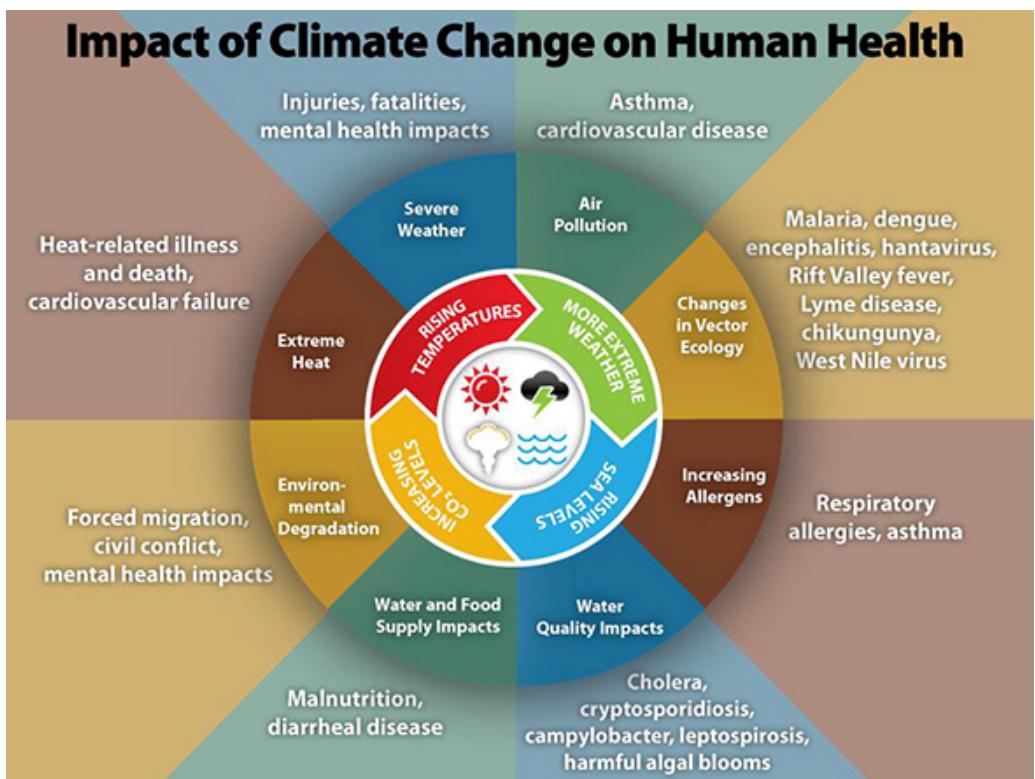


Figure 8.4. Areas of the UK where the climate could support vivax malaria. Shading represents the number of months where vivax malaria could be transmitted (grey =0, blue =1, yellow =2, orange =3). Red circles show malaria cases in the 19th Century. Based on the UKCIP for 1961-90.

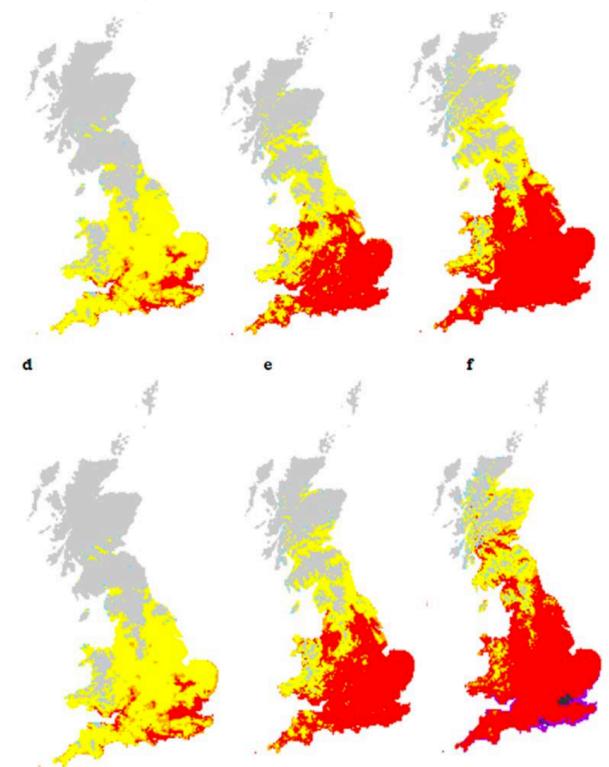
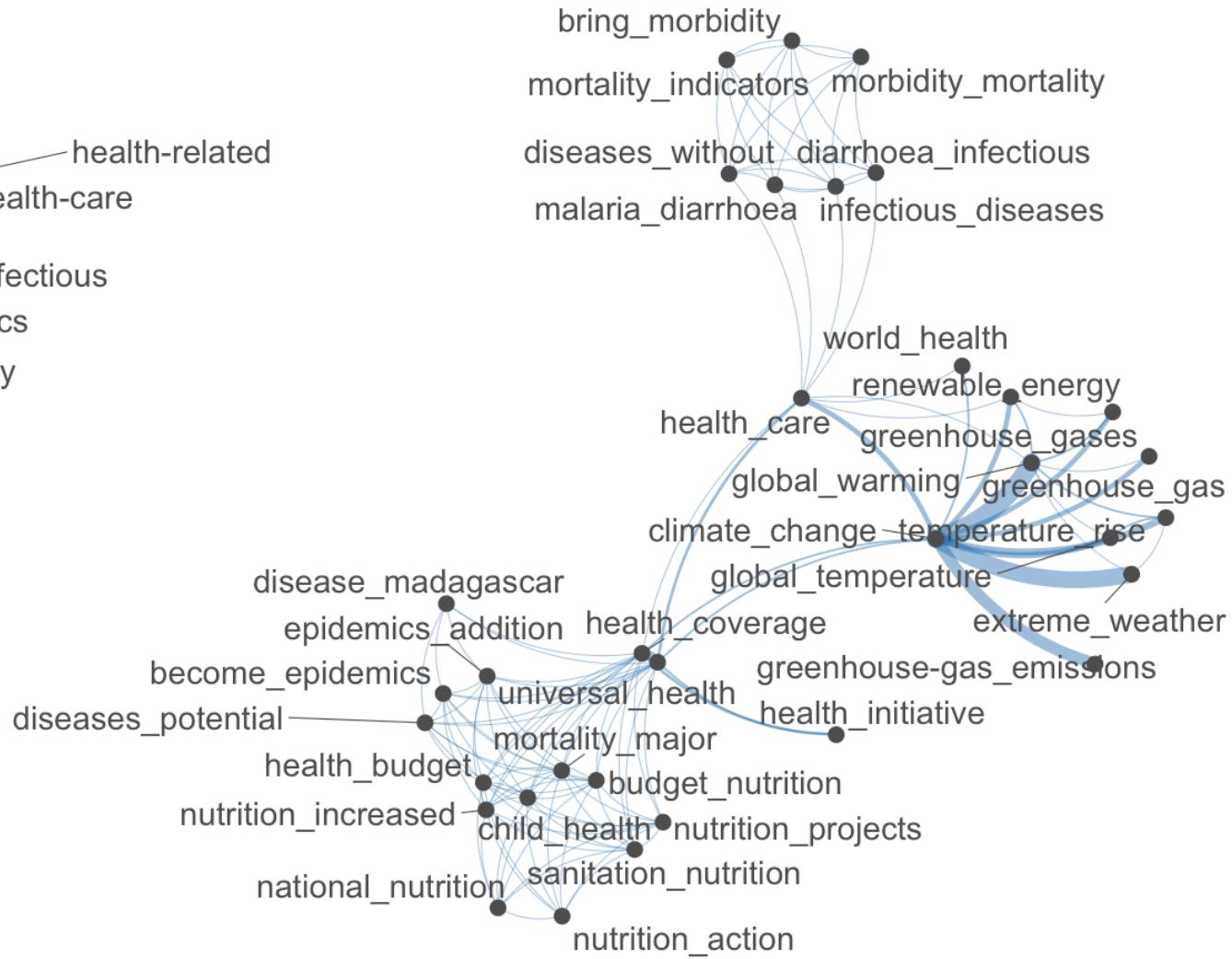
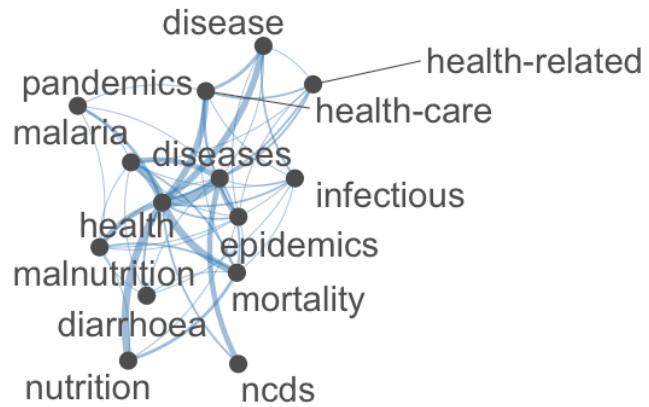
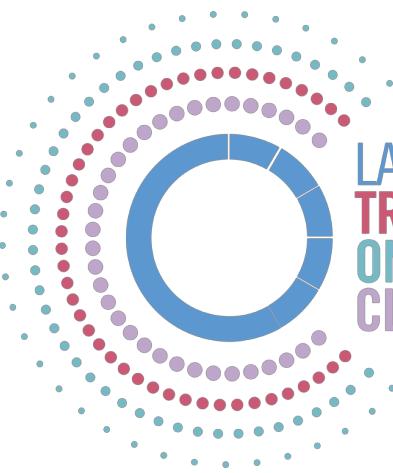
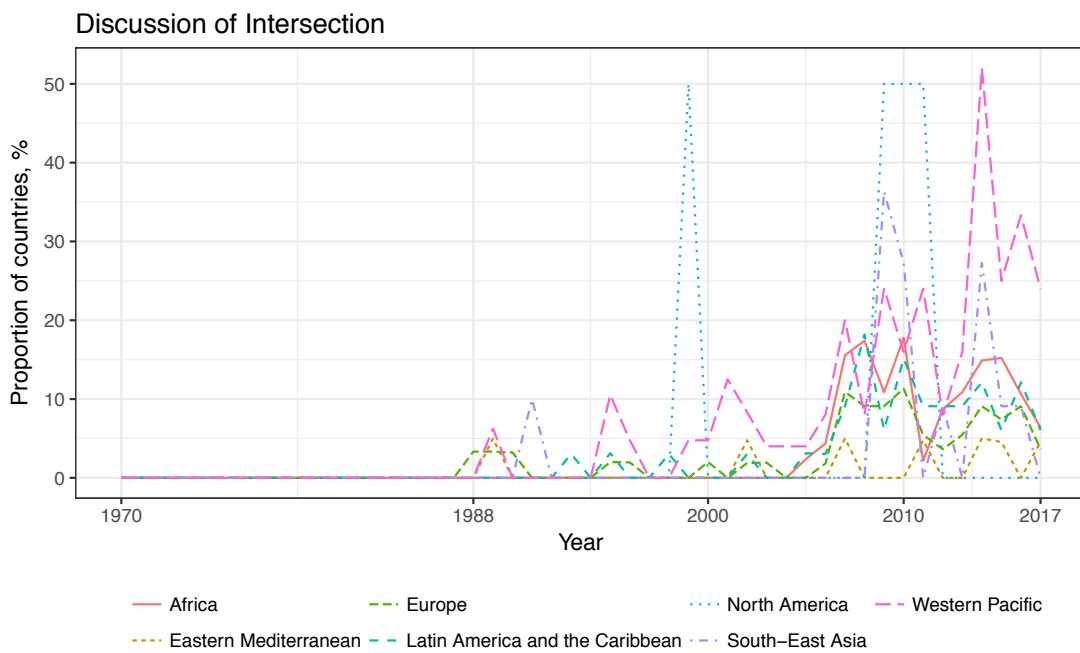
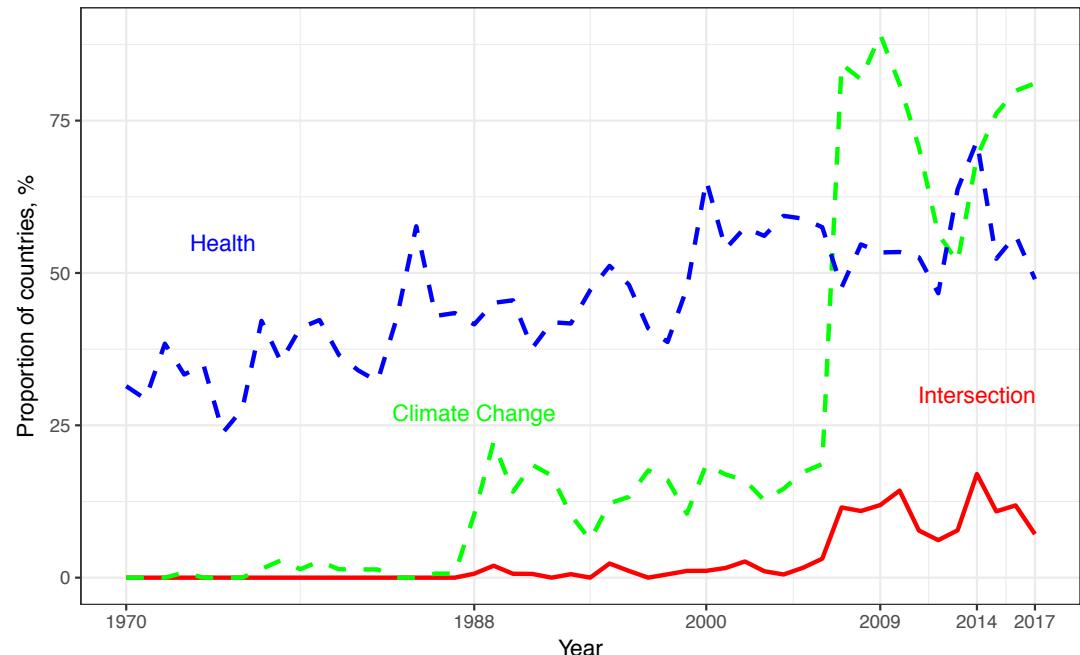
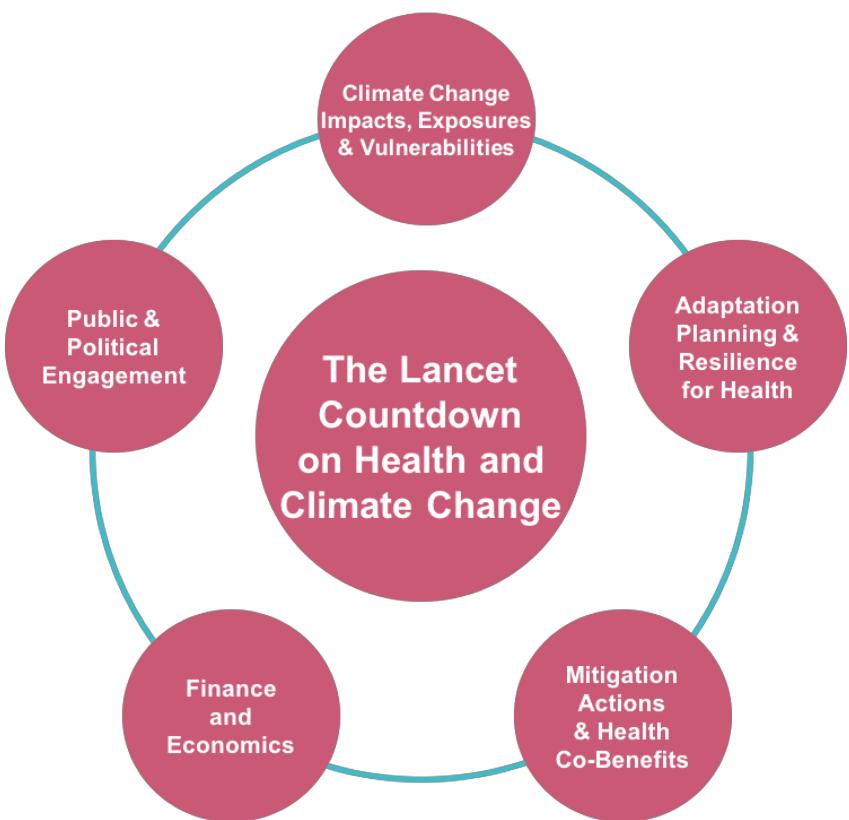


Figure 8.5. Projected future risk maps for vivax malarial transmission under a medium-low (a, b and c) and a medium-high (d, e and f) climate change scenario. Maps show risk for the period 2020s (a and d), 2050s (b and e) and 2080s (c and f). Based on UKCIP02.





LANCET COUNTDOWN: TRACKING PROGRESS ON HEALTH AND CLIMATE CHANGE



THE LANCET



THE LANCET

November, 2018

www.thelancet.com

The 2018 report of the *Lancet* Countdown on health and climate change



"The nature and scale of the response to climate change will be the determining factor in shaping the health of nations for centuries to come."



A Review by *The Lancet*

Thank you!

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