

CHRISTMAS 2008: SPORT

Rugby (the religion of Wales) and its influence on the Catholic Church. Should Pope Benedict XVI be worried?

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ABSTRACT

Objective To explore the perceived wisdom that papal mortality is related to the success of the Welsh rugby union team.

Design Retrospective observational study of historical Vatican and sporting data.

Main outcome measure Papal deaths between 1883 and the present day.

Results There is no evidence of a link between papal deaths and any home nation grand slams (when one nation succeeds in beating all other competing teams in every match). There was, however, weak statistical evidence to support an association between Welsh performance and the number of papal deaths.

Conclusion Given the dominant Welsh performances of 2008, the Vatican medical team should take special care of the pontiff this Christmas.

INTRODUCTION

In recent times, an intriguing urban legend has arisen in Wales: “every time Wales win the rugby grand slam, a Pope dies, except for 1978 when Wales were really good, and two Popes died” (http://news.bbc.co.uk/sport1/hi/funny_old_game/4449773.stm). We used historical data to examine whether the Vatican medical team caring for Pope Benedict XVI should be especially vigilant in this, a year in which Wales won the grand slam ([http://en.wikipedia.org/wiki/Grand_Slam_\(Rugby_Union\)](http://en.wikipedia.org/wiki/Grand_Slam_(Rugby_Union))) and [http://en.wikipedia.org/wiki/Grand_Slam_\(Rugby_Union\)](http://en.wikipedia.org/wiki/Grand_Slam_(Rugby_Union))).

METHODS

We investigate both parts of this claim, and refer respectively to them as the special and general theories of papal rugby. The special theory indicates the direction of the effect: when Wales win a grand slam, the chance of a papal death in that year increases. The general theory suggests a dose-response relation: when Wales perform particularly well, the expected number of papal deaths increases.

A grand slam is achieved when, in a given season, one nation succeeds in beating all other competing teams in every match. We discard results from the six years in

which not all scheduled matches were played (1885, 1888-9, 1897-8, 1972).

To our knowledge, every pope from St Peter to Pius IX (pope from 1792 to 1878) died without a rugby union grand slam being contested or won. Although rugby union was invented in 1823, the year 1883 offered the first opportunity for a rugby grand slam, when England, Ireland, Scotland, and Wales completed their first annual international rugby union tournament. France entered the competition in 1910 (though did not compete during the years 1932-9). In 2000, Italy began to compete in the event, which is now known as the Six Nations Championship. Under our working definition, 53 grand slams have been achieved to date.

Since 1883, eight pontiffs have died, five of whom did so in grand slam years: Leo XIII (1903) when Scotland won, Pius X (1914) when England won, and Paul VI (1978), John Paul I (1978), and John Paul II (2005) when Wales won. The deaths of Pius IX (1922) and Benedict XV (1939) coincided with Wales winning the tournament, though without achieving the grand slam. Each papal death in this period coincided with victory for a predominantly Protestant nation (England, Scotland, or Wales) rather than a predominantly Roman Catholic nation (France, Ireland, or Italy).

In all our investigations, we used the calendar year of completion of the northern hemisphere rugby union championship as our unit of analysis. Our sample size—that is, the number of completed competitions from 1883 to 2007—was therefore 107. Figure 1 shows the winning teams for each of these years, and indicates grand slams, papal deaths, and incomplete championships.

RESULTS

To investigate the special theory of papal rugby, we used logistic regression to relate the years in which popes have died (since 1883) to home nation (England, Ireland, Scotland, and Wales) grand slams. The binary outcome of interest was whether at least one pope died in that year. There was, however, no evidence of a significant association between any individual home nation grand slam victories and the years of papal deaths ($P>0.1$).

To investigate the general theory of papal rugby, we constructed a measure of a nation's rugby performance: the ratio of points difference (points against subtracted

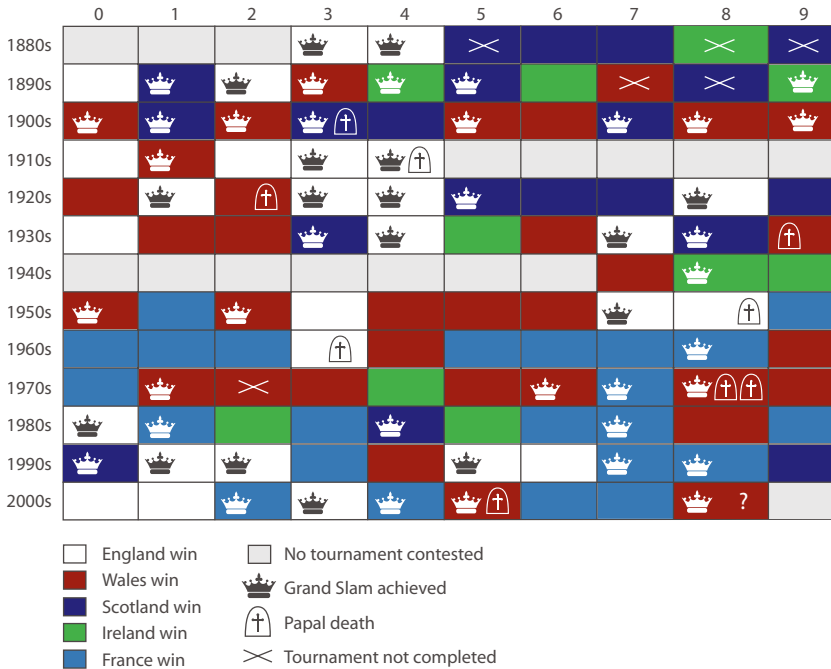


Fig 1 | The winners of the rugby tournament with the years of grand slams and papal deaths marked

from points for) to the number of games played. In other words, we used the average (signed) difference in score per game as an indication of how well a team played in that year. Note that we did not adjust for changes to rugby scoring laws, nor for the beginning of the professional era in 1995. Figure 2 plots our measure of performance for all six nations against the year of competition and also indicates the years of papal death.

We then used Poisson regression to relate the number of popes dying in a given year (with possible values 0, 1, 2, ...) to all four home nations' levels of performance (simultaneously). We found a borderline significant ($P=0.047$) association between Welsh

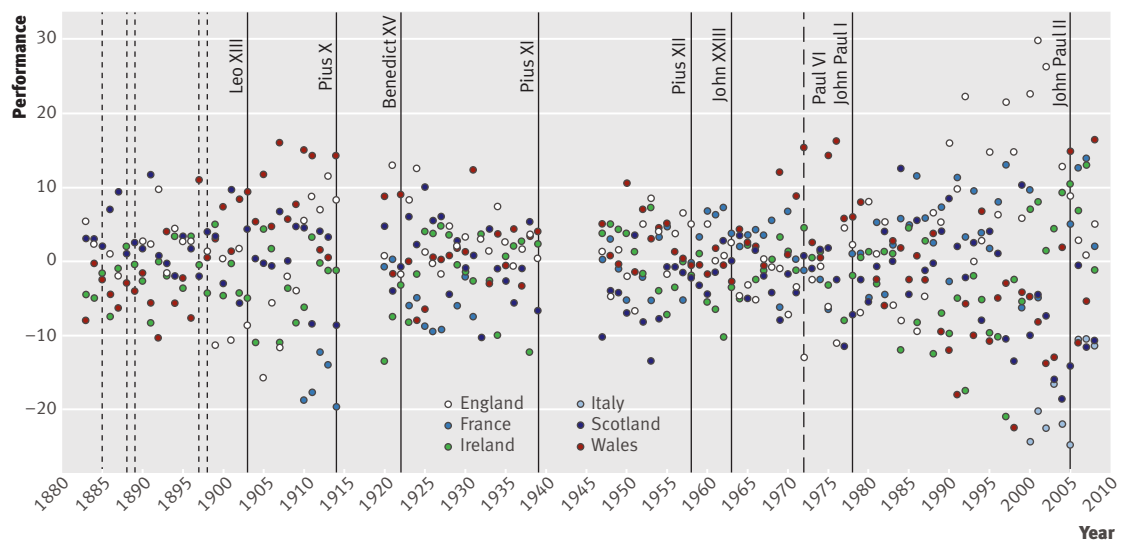


Fig 2 | The performance of the rugby nations for each year showing the years of papal deaths. The dashed lines represent years when the tournament was not completed

WHAT IS ALREADY KNOWN ON THIS TOPIC

Rugby is followed religiously in Wales
Wales is a long way from Rome

WHAT THIS STUDY ADDS

Welsh grand slams coincide coincidentally with Papal deaths

performance and the number of papal deaths but no significant associations between papal mortality and performance of any other home nation.

DISCUSSION

The special theory of papal rugby is nothing more than an urban myth, based largely on two Welsh grand slam wins in recent memory. This comes as something of a relief, as we are at a loss to see how the events could be linked, especially given the continuing rapprochement between Catholic and Protestant churches.

Nevertheless, using the Six Nations data from 2008, our model for the general theory of papal rugby predicts that 0.62 (about 3/5) of a Pope will die this year. It could be argued that Wales' strong win over Italy artificially inflates their measure of performance; however, based on the historical evidence, we do not believe the Vatican medical staff can fully relax until the new year arrives.

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Contributors: GP and RPP cowrote the paper and collected the historical data. DF cowrote the paper and performed the statistical analysis. GP is guarantor.

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