



Jan Kochanowski University Press

This is a contribution from *Token: A Journal of English Linguistics*
Volume 2/2013.

Edited by John G. Newman and Sylwester Łodej.

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The 1925 Scopes Trial as a discursive event: Does reference to the 1925 trial affect our view of teachers in the contemporary debate over evolution?¹

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ABSTRACT

Recent developments in cognitive linguistics and corpus linguistics have found application in discourse analysis. One important contribution by cognitive linguistics is the role metonymy can play in carrying a discourse (Brdar – Brdar-Szabó 2007, Halverson – Engene 2010). What cognitive linguistics identify as metonymy, Jäger and Maier follow Foucault in calling a *discursive event* (2009, cf. Foucault 1972). This article is based on the premise that the 1925 Scopes Trial serves as a discursive event, or metonymical referent, for the continuous controversy over the teaching of evolution in US classrooms. The investigation addresses two related questions: How are teachers portrayed in online news stories covering the current debate on teaching evolution? What role does mention of the 1925 Scopes trial and the image of John Scopes play in shaping the way these teachers are depicted? These questions are discussed as a result of a corpus-based study of the positioning of teachers in articles written on the passage of a controversial Tennessee education bill in 2012.

1. Introduction

It is not uncommon for a certain event to be so closely related to a particular understanding of its impact that the two become indistinguishable. This interpretation then becomes the lens through which the original event and subsequent related events are viewed. Jäger and Maier borrow the term

¹ This paper is part of a presentation given at the CADS conference (Bologna, Italy 2012).

discursive event from Foucault (1972) to explain the power such events have to “influence the development of discourse” on a given issue (2009: 48). Cognitive Linguists refer to this phenomenon as an example of metonymy. One particular event in 20th century American history that has had an influence on a variety of discourses is the 1925 trial of John T. Scopes in Dayton, Tennessee, for teaching human evolution. Echoes of the trial appear in current debates on topics such as academic freedom, evolution education, religion, and law.

This paper will analyze the influence of the 1925 Scopes Trial as a discursive event in news articles about a more recent piece of Tennessee legislation addressing evolution education, SB 893 / HB 368². In particular, it will use tools of corpus linguistics to understand better how teachers are positioned with respect to these articles. As the Trial is a natural historical referent, this paper will also discuss whether or not mention of John Scopes has had an effect on shaping the image of public school teachers. In doing this, it applies a combination of strategies from corpus linguistics and historical discourse analysis (cf. Baker et al. 2008, Reisigl – Wodak 2009).

I will begin with a presentation of the methodological approach including a working definition for discourse and discursive events. Section three provides historical context for the 1925 Scopes Trial and an outline of the bill passed in 2012. A description of the TENN2012, the corpus created to analyze media response to the legislation, follows in section four. The results are discussed in section five. The summary in section six includes an interpretation of the results and offers suggestions for future research.

2. Approach

Although there are many different ways of defining discourse, from the utterance to the text, the verbal to the multi-modal, this study adopts a definition typically applied in corpus-aided discourse analysis. That is, *discourse* is used to describe “recurrent ways of talking [...that...] provide familiar and conventional representations of people and events, by filtering and crystallizing ideas, and by providing pre-fabricated means by which ideas can be easily conveyed and grasped” (Stubbs 1996: 158). In other

² The bills under consideration are given two different names, one for the Senate (SB) and one for the House of Representatives (HB), but it is one bill, jointly agreed upon that is finally passed and put before the governor for approval. Accordingly, I will use “bill” in the singular to refer to the finalized piece of legislation.

words, we are looking at “a set of meanings, metaphors, representations, images, stories, statements and so on that in some way together produce a particular version of events” (Burr 1995: 48, as quoted in Baker 2006: 4).

As mentioned in the introduction, of particular interest to this study is the role of a discursive event in carrying discourse. The term was first proposed by Foucault in *The Archaeology of Knowledge* to describe the discourse that revolves around a particular memory or event (1972). Jäger and Maier further developed this concept to describe events “on the discourse planes of politics and the media intensively, extensively and for a prolonged period of time” (2009: 48). One salient example they give is the Chernobyl nuclear disaster: the word *Chernobyl* alone still prompts a series of anti-nuclear arguments. Other examples of discursive events include the 1999 success of the Freedom Party of Austria (Jäger and Maier 2009), The Assassination of Yitzhak Rabin (Gabay 2006), and Hurricane Katrina (Faux II and Kim 2006). Other researchers have used different terms to refer to a similar phenomenon: Rich identified *Wounded Knee*³ as a metonymic trope to encapsulate a complex discourse on the nature of US-Native American relations (2004); Wodak and Cillia analyzed the “discursive construction” of the “Rebirth of the Second Austrian Republic” (2007).

As Faux II and Kim point out, “using the discourse event approach allows us to see the multi-layered dimension of an event and explore different contextual influences. Without such an approach, a critical analysis of how to respond to events is incomplete” (2006). It is important to note that a discursive event is not merely the mention of an historical event (as if that were possible, cf. Jäger and Maier 2009, Gabay 2006, Faux II and Kim 2006, Rich 2004, Wodak and Cillia 2007), but a prompt to interpret the news story in the same way the writer does. This creates or reinforces a way of understanding a current event in light of the “accepted” discourse on the topic. As the debate over evolution education continues in the US, this understanding is vital if citizens and elected officials are to respond effectively.

The tools of corpus linguistics were chosen as a means to uncovering the discourse(s) surrounding teachers in the debate over teaching evolution. This approach was chosen because understanding “discourse(s)” as defined above requires seeing how a word or idea is used over a variety of texts (Jäger and Maier 2009: 38). Computerized textual analysis is the most practical means of doing this because it virtually eliminates human error

³ The Wounded Knee massacre occurred in 1890 as one of the last, if not the last, of the American Indian battles.

or oversight in identifying all occurrences of a given word or phrase (cf. Partington 2006, Stefanowitsch 2006). For this reason, corpus tools can also bring to light frequent ways of talking about a topic that might otherwise go unnoticed (cf. Stubbs 1996), and allow for triangulation research methods which increase the strength of conclusions drawn (Baker et al. 2008).

3. Context

3.1 The 1925 Scopes Trial

In the wake of the devastation left by World War I, questions regarding the moral effects of teaching the evolution of man began receiving increased political attention. Numerous legislators in states across the US proposed bills to limit or suppress the teaching of evolution. Tennessee, with the Butler Act in 1925, was the third state to pass such a law and the first to impose a punishment: a fine of 100-500 dollars⁴. The act forbade “teaching that man evolved from a lower animal”, although it made no mention of the evolution of other species. There was also no expressed concern about the age of the earth, as can be seen in Bryan’s testimony at the trial (cf. Numbers 1992, Larson 1997, 2003).

The trial itself came about as the result of a plan concocted by Dayton businessman George W. Rappelya after reading an advertisement placed by the American Civil Liberties Union (ACLU). The ACLU advertised free legal services for any teacher willing to put forward a test case. Rappelya saw a trial as a way to revive the dying town. He collaborated with other prominent townsmen, including the prosecuting attorney, to convince John Scopes, who had substituted in the biology classroom, to “confess” to having taught the evolution of man. Not long after, three-time Democratic candidate, progressive William Jennings Bryan, volunteered for the prosecution. In response, the well-known lawyer and iconoclast, Clarence Darrow, offered his services for the defense. The result was a circus-like atmosphere of monkey memorabilia and street preachers, which even made a positive impression on H.L. Menken, a reporter known for his cynicism, particularly when it came to the south and the religious (Larson 1997: 93).

Scopes was convicted, but the conviction was later overturned on a technicality. The Scopes decision and continuous proposals for anti-

⁴ Following Florida and Oklahoma.

evolution bills in other states resulted in publishers virtually removing the word “evolution” from textbooks so as not to lose sales⁵. Despite the apparent victory for those opposed to teaching evolution, most Americans today see the trial as the first in a long line of defeats for anti-evolutionists. Larson ascribes this to ACLU’s secondary goal to portray the law as the result of foolishness and narrow mindedness (Larson 2003: 72, 81). This they accomplished through the writings of journalists during the trial, H.L. Mencken being perhaps the most prominent. Later books such as *Only Yesterday: An Informal History of the 1920s* (Frederick Lewis Allen 1931/1997) carried this interpretation of the trial which was later dramatized in the play-turned-movie *Inherit the Wind* (Lawrence and Lee 1955/1960, cf. Larson 2003). This movie is frequently a component in US history or literature courses and is often viewed as a prime example of the debate between science and religion (cf. Larson 1997: 225-246).

It is also worth mentioning that the 1925 trial of John T. Scopes has had a continuing presence in the debate over evolution education, and not only in Tennessee. The title “Scopes II” has been applied to most, if not all prominent court cases regarding evolution education since 1925, as illustrated in Fig. 1. “Scopes II” has also been used to refer to curriculum debates, including certain ones in Kansas in 2004-2005.

Case	Year	Court and Decision
<i>Epperson v. Arkansas</i>	1968	U.S. Supreme court declared it unconstitutional to forbid the teaching of evolution.
<i>McLean v. Arkansas</i>	1981	The U.S. District Court for the Eastern District of Arkansas declared mandating equal time for evolution and creationism violated separation of church and state.
<i>Edwards v. Aguillard</i>	1987	The U.S. Supreme court came to the same conclusion on a case originating in Louisiana.
<i>Kitzmilller v. Dover Area School District</i>	2005	The U.S. District Court for the Middle District of Pennsylvania declared Intelligent Design to be creationism and therefore a violation in the same order as <i>Edwards</i> and <i>Aguillard</i> .

Figure 1. Examples of “Scopes II”

⁵ Evidence from *The Corpus of Historical American English (COHA)* supports this claim. There is a sharp decline in the usage of *evolution* from a range of 22-34 words per million in each decade after the publication of *Origin of Species* to not quite 15 words per million in 1930. No significant increase is visible until the 1990s; however, even then it does not reach the high frequency of the 1900s or 1920s (Davis, 2010-).

Furthermore, there is at least one reference to the Scopes Trial for every 41 occurrences of *evolution* in *The Corpus of Historical American English* (COHA Davies 2010-) and *The TIME Magazine Corpus* (Davies 2007-) combined, and at least one reference per 78.5 instances of *evolution* in *The Corpus of Contemporary American English* (COCA Davies 2008-)⁶. Thus, it is reasonable to view the 1925 Scopes trial as a discursive event that has evolved with the debate, carrying certain assumptions about both its contents and its participants. The role of *Inherit the Wind* is worth taking into consideration as well: of the Scopes Trial references mentioned above, the play/movie accounts for 13%, and the book for 16%. Moreover, there is evidence of journalists confusing historical reality with the play's storyline in the TENN2012 corpus, as will be illustrated in some of the examples.

3.2 The current case study: Tennessee SB 893 / HB 368⁷

First put forward in February 2011, House Bill HB 368/Senate Bill 893 (authored by Representative Bill Dunn and Senator Bo Watson, respectively) proposed that science teachers be allowed to discuss controversies related to scientific theories already included in the science curriculum. However, the bill produced its own controversy, primarily because the examples of disputed science topics included biological evolution, chemical evolution, and climate change. In March of 2012, the bill passed both houses with a significant majority and was put before Governor Bill Haslam for a signature that April. His decision to let the bill become law without his signature was made public on April 10. As this research focuses on the positioning of *teacher(s)* in the articles, excerpts from the bill containing the word *teachers* are given below. The full text of the bill can be found in the Annex.

Some *teachers* may be unsure of the expectations concerning how they should present information on such subjects. [...] The state board of education, public elementary and secondary school governing authorities, directors of schools, school system administrators, and public elementary and secondary school principals and administrators shall endeavor to assist *teachers* to find effective ways to present the science curriculum as it addresses scientific controversies. [...] Toward

⁶ These are my calculations based on searches for the terms "John (*) Scopes", "Monkey Trial" and "Inherit the Wind".

⁷ Now filed as Tenn. Code Ann. § 49-6-1030 (2012).

this end, *teachers* shall be permitted to help students understand, analyze, critique, and review in an objective manner the scientific strengths and scientific weaknesses of existing scientific theories covered in the course being taught. (Tenn. Code Ann. § 49-6-1030, 2012).

4. The TENN2012 corpus

The results of this study are based on a corpus created specifically for studying responses to the Tennessee Bill discussed above, TENN2012. I collected the articles by searching for the phrase “Tennessee ‘Teach the Controversy’” using *Google News* and the dates April 5-18, 2012. This means that the articles include speculations and advice for the Governor before his decision as well as various responses that followed. Unless otherwise made explicit, all corpus-based examples in this article come from TENN2012. I have used this corpus previously for other similar projects researching the debate; I quote my rationale for choice of search terms here:

I chose to search for the phrase “Tennessee ‘Teach the Controversy’” rather than the name of the bill or other metonymic references to the bill as I discerned, from previous reading, that such a search had the greatest chance of producing articles neutral to the bills’ passage. This decision was reached based on the fact that the “teach the controversy” is the reasoning or argument presented by the bills’ supporters and echoes the language of the bill itself, which is meant to address the teaching of “controversial issues” in science (Barczewska, forthcoming).

The search retrieved 159 articles, 29 of which were duplicates, unusable daily or weekly news digests, or simply irrelevant. A further problem was related to the procurement of articles, some of which required a subscription. The remaining 118 articles (62,696 words) were categorized according to origin, genre, and reference to the 1925 Scopes Trial. The number of articles and words analyzed for each category can be seen in Fig. 2. A description of the categories follows below⁸.

⁸ The findings are consistent with what could be expected according to Pennebaker and Banasik’s study on collective memory (1997). Their research suggested that the closer a place was to a tragedy, the less likely it was to be mentioned or commemorated

Source	Totals		Scopes (S)		No Scopes (NS)		% Scopes	
	articles	words	articles	words	articles	words	articles	words
Local (Tennessee)	26	12971	11	6431	15	6540	42%	50%
newspapers	5	2461	1	309	4	2152	20%	13%
newspaper blogs/opinion	12	6256	6	4392	6	1864	50%	70%
Blogs	5	3226	2	1180	3 (same source)	2046	40%	37%
TV/Radio	4	1028	2	550	2	478	50%	54%
Southern States	5	3081	3	2167	2	914	60%	70%
National	74	40143	51	26610	23	13533	69%	66%
News	22	9622	21	9464	1	158	95%	98%
News blogs/opinion	9	4413	5	2534	4	1879	56%	57%
Blogs	35	21452	17	9956	18	11496	49%	46%
TV/Radio	8	4656	8	4656	0	0	100%	100%
Foreign	12	6501	11	6188	1	313	92%	95%
TOTAL	117	62696	76	41396	41	21300	65%	66%

The number of words/tokens in the articles includes the headlines, but not other information such as author, date, and publication

Figure 2. Google News Search Results: "Tennessee 'Teach the Controversy'" (April 5-18, 2012)

This follows the classification for the projects mentioned above, so I will quote the previous description of my classification system.

Newspaper articles were thus classified if the website identified itself with a print newspaper or as an online newspaper. Included are press releases. Newspaper blogs/opinion refers to blogs on newspaper websites as well as opinion/editorial articles and letters to the editor.

there. As an example, they cite Dallas, TX which did not have a memorial to John F Kennedy until about 25 years after his assassination. Similarly, Memphis, TN did not have a monument to Martin Luther King, Jr. until about 25 years after his assassination in that city (pp. 11-13).

The term “blogs” was used for all other sources not directly related to a newspaper or TV/Radio station. Virginia, Texas, North Carolina, Missouri are the southern states appearing in this corpus (Barczewska, forthcoming).

The examples from the corpus provided below are marked according to the scheme in Fig. 3. Throughout this article S and NS will be used to abbreviate TENN2012_S and TENN2012_NS, respectively. The original analysis was conducted with Wordsmith 5.0, but subsequently with Wordsmith 6.0. Concord was the primary research tool used for the analysis.

Source	Marker
Local (Tennessee)	
Newspapers	LN
Newspaper blogs/opinion	LNB
Blogs	LB
TV/Radio	LRTV
Southern States	S
National	
News	NN
News blogs/opinion	NNB
Blogs	NB
TV/ Radio	RTV
Foreign	F

Figure 3. Marking Scheme for TENN2012

5. Results

I will begin by identifying how John Scopes was presented in the corpus. Those results will then be available for comparison with the way in which current teachers are presented in the corpus.

5.1 Retextualization of John Scopes

Wordsmith concord identified 154 instances (3.72/1000ww.) of *Scopes* in the S sub-corpus. Of these, 78 are references to the trial and 3 are used to identify Clarence Darrow as his attorney. Collocates of the remaining 73 references

to John Scopes describe him as a *high* (16/6.7)⁹ *school* (23/6.0) *biology* (4/4.8) *science* (16/3.6) *teacher* (38/7.1) who was *convicted* (8/7.3) of *violating* (23/7.3) a Tennessee law against *teaching* (9/3.2) *evolution* (8/2.2). While not exactly signifying lies, these terms are variously interpretable as Scopes was not explicitly a science teacher, but rather a math teacher who had substituted in a biology class. Furthermore, it could be argued that the choice of the lemma [violate] (35, 0.85/1000ww.) over the lemma [break] (7, 0.16/1000ww.), with a relatively frequent use of *flouted* (3, MI=8.1) in connection with the Butler Act, implies volition or moral activism on the part of Scopes. This impression is exemplified in the following lines from the TENN2012_S sub-corpus.

- (1) John Scopes, a biology *teacher* who **flouted the state's ban on evolution** [...] (NN×3)¹⁰
- (2) The ACLU, attorney Clarence Darrow, and *teacher* John Scopes **teamed up to challenge the bill** [...] (LNB)
- (3) Scopes **presented an enduring lesson in the importance of standing up for science and the truth.** (NNB, NN)
- (4) Tennessee *teacher* John Scopes **appealed for the right to teach students all of the scientific evidence** (NN×2)

These extracts clearly present John Scopes as an active participant in the heroic struggle for truth in education and academic freedom. The first even portrays him as a biology teacher who intentionally set out to break the law. Even proponents of the new legislation present Scopes in this light (4). That said, (3) could be understood metonymically; it may refer to the trial and the surrounding events rather than to the historical person of John Scopes. The vagueness provides a link between the person, the trial, and the moral the writer wants to emphasize. It is an example *par excellence* of Scopes being used discursively to highlight an image of John Scopes and his trial that is linguistically enforced throughout the S sub-corpus.

While (1)-(4) focus on Scopes as an intentional hero; he is also profiled by some as a victim of unjust persecution by "religious zealots".

⁹ The numbers in parentheses show the raw frequencies of occurrence of these words and the specific mutual information (MI) score for the word as a collocate of *Scopes* in the S sub-corpus.

¹⁰ This particular phrase occurred in three different articles within the National News section of the S sub-corpus.

- (5) OakTree wrote: ...**Who initiated the prosecution of John Scopes?** Who pushed for this legislation? Religious zealots, who cannot win over the public to their position by the reasonableness...¹¹ (LNB)

While historically inaccurate, this quote illustrates the license of cinema: *Inherit the Wind* begins with four men, including a local priest, arresting Bertram Cates during his biology lesson¹².

To summarize, the articles tend to present Scopes as a purposeful hero, even a martyr, for science. They draw upon the image of the scientist as pure and unbiased, as discussed by Lessel (1989) and Nelkin (1987) in their research into the portrayal of scientists in the news media. Additionally, they draw upon the American value of non-violent resistance in standing up for one's principles. This is also consistent with the image of Scopes presented in the press of his day.

Mr. Scopes, who is hardly more than a boy and whose pleasant demeanor and modest bearing have won him many friends since this case started, was nervous. His voice trembled a little as he folded his arms and said:

"Your Honor, I feel that I have been convicted of violating an unjust statute. I will continue in the future, as I have in the past, to oppose the law in any way that I can. Any other action would be in violation of my idea of academic freedom, that is, to teach the truth as guaranteed in our Constitution, of personal and religious freedom. I think the fine is unjust". (*New York Times* 1925).

The question which should be raised, then, is whether or not the image of John Scopes as a symbol of intellectual integrity in the fight for academic freedom has been transferred to the portrayal of the teachers in the Tennessee of today. Firstly, we will look at the presentation of teachers in articles that avoid direct mention of the Scopes Trial. Then, we will look for examples within articles referring to the trial with a view to finding any differences that the presence of the hero/martyr Scopes makes in the way teachers are presented.

¹¹ While comments were not included in the corpus in general, one article was based on "the best" quotes related to the Tennessee controversy and those quotations that were included as part of the actual article were kept in the corpus.

¹² Bertram Cates is the character in *Inherit the Wind* who was based on John Scopes.

5.2 Teachers in the NS sub-corpus

There are 126 occurrences of *teachers* within the NS sub-corpus (5.87/1000 ww.). We will begin with a look at the most frequent collocates to the left and right of *teachers* as illustrated in Fig. 4.

Top 10 L1 collocates		<i>teachers</i>	Top 10 R1 collocates	
SCIENCE	17 (3.708)		TO	35 (3.170)
FOR	11 (3.715)		WHO	17 (5.503)
ENCOURAGE	11 (7.553)		ASSOCIATION	14 (6.579)
PROTECT	9 (7.585)		THAT	4 (0.664)
ALLOW	8 (5.508)		IN	4 (0.631)

Figure 4. Top 5 L1 - R1 collocates of *teachers* in the NS sub-corpus after lemmatization

As may be expected, *science* and *association* are frequently found together in reference to the Tennessee Science Teachers Association (8 occurrences) and the Earth Science Teachers Association (5 occurrences). Likewise, the remaining R1 collocates can be seen as extensions of *encourage/allow/protect + teachers*. While it is common practice to focus on content words, function words can also provide key insights. In this corpus *for* is also used in phrases granting permission or protection:

- (6) opens the door for *teachers* to **legally distract students with frivolous content** (LNB)¹³
- (7) The bill 'provides guidelines' for *teachers* **when answering students' questions** (NB)
- (8) effectively granting permission for *teachers* to **bring religion into the classroom** (LB)
- (9) essentially granting permission for *teachers* to **violate the First Amendment** (LB, NB)
- (10) protections for *teachers* who **discuss the 'weaknesses' of scientific theories** (LRTV)

¹³ As section 5.2 focuses exclusively on the NS sub-corpus, only the source/genre markings are included.

- (11) **a permission slip for teachers** to bring creationism, climate-change denial, a (NB, 2×)

It is not surprising to frequently see comments on the fact that the bill gives permission; that comes from the language of the bill itself. What is interesting is the tendency to think that the teachers will do something sinister with this freedom: five comments suggest teachers will bring in creationism or religion, both of which are illegal in the US science classroom, and two convey the notion that this law will allow teachers to violate the first amendment. Also of interest is the comparison of the law to a *permission slip* (11)¹⁴. This is of particular interest as a permission slip is something minors must have signed by parents or teachers in order to leave the classroom or to attend special activities. Analysis of this compound in COCA (Davies 2008-) suggests that when *permission slip* is used figuratively it has a negative connotation: it implies either that a situation might be misunderstood resulting in negative consequences (12), or that the subject is independent or mature enough not to need permission to do something that the speaker believes is a natural right/duty (13).

- (12) Are White House people worried that that might be a *permission slip* for some voters to go vote for the other guy if he gets (COCA)
- (13) gave them the back of his hand by saying, America will never seek a *permission slip* to defend the security of our country.' (COCA)

Figuratively or literally, *permission slip* implies that its possessor lacks the maturity and/or authority to make decisions independently. It is particularly ironic in (11) as it is usually teachers who are establishing/confirming a student's right to do something. Hence, such word choice could be understood as condescending.

When not used as a tool to quote or paraphrase the new bill, *allow* and *encourage* paint a similar picture. A few examples from TENN2012_NS are provided below:

- (14) allow *teachers* to **promote their personal beliefs in the classroom.** (LN)
- (15) allow *teachers* to **reiterate many of the spurious arguments** (NB)

¹⁴ This statement of NCSE's Eugenie C. Scott quoted in Nature was found in both sub-corpora.

- (16) allowing *teachers* to **point out flaws in widely held scientific theories** (LNB)
- (17) encourage *teachers* who would **introduce pseudo-scientific criticisms inspired by religion or ideology** (NNB)
- (18) encouraging *teachers* to **intentionally confuse their students** (LNB)

While the neutrality of statements such as (7) and (14) depends on the readers' perspective of the evolution debate, other statements echo the distrust of teachers displayed in the use of the compound *permission slip*. If there are teachers prone to "intentionally confusing" their students or "reiterating... spurious arguments", those problems should be addressed as methodological issues, regardless of whether or not the bill is passed.

The R1 collocate *who* occurs in the context of protecting or providing legal cover for the teachers. In 58% of the cases, the context is a situation in which the teacher would do something the journalist disapproves of¹⁵. Most other uses of *who* follow a pattern of quoting or paraphrasing the bill. Those that do not, and are not included above, are presented in (19) and (20):

- (19) "[...] *teachers* who **run off the rails**", he said. (NB)
- (20) *teachers* who **wish to dress up religious beliefs** (LB, NB)

When looking at phrasing, it is also important to ask what is not said (cf. Baker 2006). The choice to use a defining relative clause featuring *who* rather than a conditional clause in *if* implies that "run[ning] off the rails" and "dress[ing] up religious beliefs" is something teachers are in a habit of doing already. The overall impression presented in the sub-corpus is that the bill gives the teachers a dangerous freedom that they are likely to abuse. This presents a negative picture of educators in the public school system: their authority is ignored and their professionalism is questioned. In their discussion of methods for corpus-aided discourse analysis, both Partington (2003) and Baker (2006) suggest that different results can be obtained by searching for a word in its singular and plural forms. Thus, the next step is to see if individual teachers are able to stand out from the crowd and serve as heroes, as Scopes did. This is what we find:

¹⁵ This is a conservative number. Depending on one's approach to the legislation, the number could be higher.

- (21) ...K-12 do **not have the capability to undertake such a task**. All the science *teacher* can do in such circumstances is select a partial set of evidence-(NB)¹⁶
- (22) ...is a **betrayal of the trust** children place in their *teacher*... (NB)
- (23) **Orwellian misdirective** name of “Academic Freedom”, ...Likewise if you are a History *Teacher*, you can decide that you want to teach that Ceaser was never assassinated... And if you a Math *Teacher*, you can teach $2 + 2 = 5$, that’s your Academic Freedom¹⁷ (NB)
- (24) ...exposure to science **tainted** by a *teacher* with a **creationist agenda**... (NB)

The individual teacher fares no better. The initial compliment of a teacher being a person the children trust is significantly weakened by the implication that a teacher would be inclined to betray that trust. Again, the use of *is* implies that this misdeed occurs. Furthermore, teachers are described as lacking the training (or intelligence) to teach their assigned subject. While for some, these comments may seem in line with the perceived dangers of the bill, they should also raise questions as to what extent the community trusts teachers to educate their children in general. The example in (23) makes use of hyperbolic exaggeration to suggest that the application of the term “Academic Freedom” to justify teaching weaknesses in Darwinism is comparable to using it to justify teaching $2 + 2 = 5$. The insult is double: it both accuses the bill’s authors of insincerity and teachers of abusing the system. It expresses the content of other statements, such as (17) and (18), but does so through hyperbole and metonymy¹⁸.

Nevertheless, there is one teacher that survives this scathing review: biology and anatomy teacher Derek DeSantis. His wife, Larisa DeSantis, the professor who organized a petition against the bill, is widely quoted in a positive light in the corpus. However (27) shows the only situation in which she is referred to as a ‘teacher’. It is worth noting that she herself applies the label, perhaps as a means of identifying with those in the K-12 public school system.

¹⁶ K-12 is a commonly used abbreviation for Kindergarten through 12th grade in the US educational system.

¹⁷ Spelling errors are those present in the corpus.

¹⁸ A word of appreciation is due an anonymous reviewer who drew my attention to the need to expand on the figurative nature of concordance lines (23) and (29).

- (25) Derek DeSantis, a high school biology and anatomy *teacher* and the husband of Larisa DeSantis, the Vanderbilt University paleontologist [...] (NB)
- (26) He added, “Honestly, as an educator and a parent, as a *teacher* in the system, I don’t see the need for [the law].” (NB)
- (27) As a science *teacher* I would say there is no controversy over evolution or climate change [...]” (NB)

Here, DeSantis is given the respect that the other teachers are denied. Although he claims his source of authority is his position as a teacher (and parent), this is open to debate as the content of the articles in general does not seem to assume unconditional trust in the science teachers. It is worth asking whether his authority to speak for the science teachers is granted instead as a result of who he knows (his wife, the university paleontologist) or of his opinion on the bill (not seeing controversy over evolution). Derek DeSantis is not mentioned by name in the S sub-corpus although his wife is quoted as a scientific expert¹⁹.

To summarize, the NS sub-corpus seems to portray teachers in a negative light. This is accomplished by highlighting not only their need for permission but also the likelihood that they will abuse additional freedoms or protection granted them in the Tennessee legislation. Furthermore, it appears that the only way to be worthy of trust is through identification with a university professor. The average K-12 teacher’s judgment and motivation are placed under suspicion. This is true whether the teachers appear in the plural or singular form.

5.3 Scopes sub-corpus

I will now turn to the articles in which John Scopes and his trial are mentioned to see whether or not Scopes is able to raise the profile of the teacher and the teaching profession.

Here we will start with the singular *teacher*, which occurs 75 times in the S sub-corpus (1.81/1000 ww.). After removing phrases used as direct modifiers of (*John*) *Scopes*, there were 20 concordance lines to be analyzed (0.48/1000ww.). One refers to an unnamed Tennessee teacher who had chosen to violate the very same Butler Act in 1967. Here, *teacher* bears

¹⁹ The only related lines in TENN2012 S are quoted in (27).

a positive connotation. The Butler Act, or the people/government behind it, is portrayed as a hindrance.

- (28) until 1967, when it was repealed – just in time to avoid a class action lawsuit led by a Tennessee *teacher* who had been fired for violating the act (F)

However, not every teacher is as well respected in the corpus as the gentleman mentioned above. On the contrary, it is feared that a teacher may abuse the new law and behave irresponsibly because of his or her religious beliefs.

- (29) I wonder what repercussions a *teacher* would face if he/she introduced “Pastafarianism” to the classroom²⁰. (NNB)
- (30) Our fear is that there are communities across this state where schools are very small and one *teacher* is the science department, and they also happen to teach a Sunday school class. (NN×2, F)

The question is as much over what constitutes a good law, as it is over what constitutes a good teacher. For some, meaning most writers represented in TENN2012, a ‘good teacher’ teaches evolution as presented in the textbooks. It also seems that these authors feel it would be better for a teacher to have no public role in a religious community as that could interfere with professional responsibility in the science classroom.

Proponents of the new law disagree. In their opinion, a ‘good teacher’ will support discussion over a range of ‘sides’ to any given issue without falling into the trap of teaching religion or creationism. They claim that this openness invites critical thinking and follows the Scopes legacy more faithfully than the current approach to teaching evolution.

- (31) the law defends a principle Scopes himself had endorsed in the following statement: “If you limit a *teacher* to only one side of anything, the whole country will eventually have only one thought”

²⁰ “Pastafarianism” is in reference to a satirical religion that developed as a response to organized religions, Christianity in particular (see <http://www.venganza.org/about/>). The quote does not suggest a teacher would actually introduce Pastafarianism, but by presenting a satirical religion the author makes a sweeping comment about other religious beliefs or worldviews that a teacher may convey to his/her students. Alternatively, it may be implying that the aim of the bill is to promote one religious understanding of origins, but may not be so accepting to “Pastafarianism”.

As seen above, however, this is not the prevalent opinion in the corpus. One blogger wrote: “Haslam does not believe that the bill “changes the scientific standards that are taught in our schools or the curriculum that is used by our teachers.” Yet this will only hold true if a student has a worthy and respectable science teacher. Qualified teachers will continue to abstain from teaching creationism” (Yahanda 2012). Yahanda’s understanding of the law seems to represent the tone of the corpus as a whole²¹.

From what has been analyzed thus far, the general consensus appears to be that most students will not be fortunate enough to have such a teacher. Similar concerns are visible when looking at the plural *teachers*. There are 314 instances of *teachers* in the S sub-corpus (7.5/1000ww.). As with the NS sub-corpus, I will begin with the key L1 and R1 collocates for *teachers*. The results are similar to what was found in that sub-corpus: *science*, *school* and *biology* describe the type of teaching, and the combination [protect/allow/encourage] + *teachers* + [to/who/from] explains what it is thought the new bill will mean when applied²².

Top 10 L1 collocates		<i>teachers</i>	Top 10 R1 collocates	
PROTECT	47 (8.150)		TO	90 (3.285)
SCIENCE	41 (3.846)		WHO	47 (5.275)
ALLOW	31 (5.439)		FROM	24 (4.618)
THAT	18 (1.684)		ASSOCIATION	18 (4.996)
SCHOOL	17 (4.528)		The numbers in parenthesis are the MI relation scores for relations within the S sub-corpus	
GIVE	14 (6.862)			
ENCOURAGE	14 (6.004)			
FOR	13 (2.385)			
OUR	13 (4.170)			
BIOLOGY	12 (5.392)			

Figure 5. Top L1 and L2 collocates of teachers in the S sub-corpus after lemmatization

Once again, the majority of the specimens are quotes or paraphrases of the law. These phrases express fears similar to those found in the NS sub-corpus. Some examples are presented in (32) – (38). The compound *permission slip* is

²¹ Haslam’s much quoted explanation for his decision is the reason for the word *our* appearing as a frequent L1 collocate.

²² More collocates are given for *teachers* in this sub-corpus as the database was larger and there were more collocates that occurred more frequently in the L1 position.

used again, this time by two different speakers. While outside the scope of this study, it may be worth mentioning that (38) is an extension of the same statement found in the NS sub-corpus (9) and (20); however, the author of the article chose to quote it differently. What is particularly interesting is that *permission slip* was used exclusively in quotes made by two spokesmen, one whose job it was to support science teachers, and the other to protect civil liberties²³. Irrespective of one's position on the bill, it is difficult to see the use of that phrase as an expression of solidarity with the teachers of Tennessee.

- (32) allow *teachers* to **inject Intelligent Design** and **neo -creationism**. (F, 4×)²⁴
- (33) allow *teachers* to **teach creationism** in the classroom. (F)
- (34) allow *teachers* to **introduce any idea they want** into the science curriculum, religious (NN, 3×)
- (35) encourage *teachers* to **interject their personal non-scientific and religious views** (NN)
- (36) *gives legal cover* to *teachers* to **introduce pseudo-scientific** ideas (NN, 2×)
- (37) is effectively a **permission slip** for *teachers* to **violate the First Amendment** by allowing *them* to **dress up their religious beliefs on the origin of life as pseudo-science**,²⁵ Weinberg said. (S, NN, F)
- (38) a permission slip for *teachers* to **bring creationism, climate-change denial** and other **non-science into science classrooms** (NB)

One marked difference, which may or may not be coincidental, is that some articles in the Scopes sub-corpus aim at clarifying what the law does *not* allow, which would counter the concerns above. However, that is an issue for another study as our focus is not on the ramifications of the law, but on the presentation of the teachers. The perception of the teachers presented in the S sub-corpus is that they will (mis)read the new bill as permission or even encouragement to do a host of things that have been identified by US courts as unconstitutional, such as teaching religion or creationism.

²³ Hedy Weinberg is the executive director of the American Civil Liberties Union of Tennessee.

²⁴ The (4×) signifies that the same selection of words occurred four times in that segment of the sub-corpus.

Thus, both sub-corpora portray the average teacher in a negative light. It appears to be a common consensus that as a group, public school science teachers, especially those in Tennessee, tend to be irresponsible and dangerously inclined to teaching religion instead of science if given the opportunity. In the sense that they need guidelines, permission, protection and instruction, they do not seem to have much more authority than their pupils do. While the individual teacher may be a 'martyr', it seems the consensus from the corpus is that he/she is more likely to be a 'wolf' in scientific attire.

6. Summary and concluding thoughts

The hypothesis that the Scopes trial is a discursive event that brings integrity to the teaching profession was not supported by evidence in the corpus. Although the proponents of the bill tried to draw on the heroic image of Scopes as an advocate of Academic Freedom in order to support the teaching of "scientific weaknesses", their attempt to redefine the discourse surrounding the 1925 Scopes trial was not reflected in other articles of the sub-corpus.

While some may regard this to be an obvious outcome considering the nature of the debate, the visible lack of trust and respect among teachers, parents, legislators and journalists may be an indication of a larger problem in the American school system. It would be interesting to see whether or not a similar tone of distrust is present in the news when other areas of education are discussed.

Not only does this research indicate the need for further study on the discourse surrounding teachers and the educational system, it also suggests a need to rethink the role that discursive events play in creating discourse. It appears that the impact of the formulation of these events is dependent on a variety of factors. One possibility in this case is that the religion-science, or evolution-creationism, dichotomy has become the discursive lens through which the Scopes trial is viewed. As a result, other aspects of the discourse surrounding the trial, such as the heroic image of Scopes as a teacher fighting for academic freedom, are overshadowed. Regarding the similarities between the two corpora, it seems that the image of the Scopes Trial is so well entrenched in American culture that the mention of *evolution* and *Tennessee* together is enough to trigger a "Scopes Trial" discourse without explicitly mentioning the event. This suggests a need to look deeper into the cognitive mappings involved in figurative language and discourse creation,

particularly in the case of event metonymy. Additionally, a comparison of the language used in reporting the trial in the 1920s to that used in its numerous retellings and reenactments could also shed light on the development of discourses surrounding evolution education. Any diachronic study of the evolution debate would benefit from making that comparison using the modern tools of corpus linguistics.

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