

# Keywords-in-Context and Dictionaries

Solutions

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```
# Load libraries
library("readr")
library("dplyr")
library("stringr")
library("lubridate")
library("quanteda")
```

## Challenge 2

**Easy mode** Explore the context of the words *gun* and *firearm* with the `kwic()` function. Are there any issues with the default setting? Treat them as `glob` to capture plural forms.

```
guns <- quanteda::kwic(corpus115, "gun*", window = 5, valuetype = "glob")
head(guns, 50)
```

```
##
## [text16, 877] silence our voices for commonsense | gun |
## [text128, 402] simplest kinds of things on | gun |
## [text128, 434] asking patients if there are | guns |
## [text128, 473] to ask if there are | guns |
## [text128, 485] gone so far in the | gun |
## [text128, 496] Americans own over 320 million | guns |
## [text128, 573] be able to buy a | gun |
## [text128, 687] couldn't get on airplanes have | guns |
## [text168, 194] last year over inaction on | gun |
## [text168, 1881] the public health crisis of | gun |
## [text172, 200] the people to bring strong | gun |
## [text174, 152] that silences the call for | gun |
## [text177, 216] you could not get a | gun |
## [text180, 137] this public health issue of | gun |
## [text180, 250] the floor that would reduce | gun |
## [text180, 543] big public health issue: | gun |
## [text180, 2131] just about the sit-in on | guns |
## [text184, 69] taking action to address the | gun |
## [text193, 165] enacted in response to the | gun |
## [text193, 178] to address the epidemic of | gun |
## [text350, 2715] that cities that have more | gun |
## [text350, 2770] that cities with the most | gun |
## [text350, 2799] , been killed, themassive | gun |
## [text350, 2814] got a massive number of | gun |
## [text490, 39] Delaware: George Read, | Gunning |
## [text558, 101] up in a world where | gun |
## [text558, 137] universal background checks, making | gun |
## [text558, 203] to make progress on reducing | gun |
## [text603, 468] then you can't buy a | gun |
```

##	[text976, 47]	congressional district, when a		gunman	
##	[text976, 53]	mercilessly unleashed a hail of		gunfire	
##	[text1061, 101]	well-worn routine in response to		gun	
##	[text1061, 198]	silent during this epidemic of		gun	
##	[text1546, 72]	Second Amendment rights. The		Gun	
##	[text1555, 1457]	by unknown assailants with machine		guns	
##	[text1815, 119]	trying to bring attention to		gun	
##	[text2083, 398]	We got ambushed by machine		gun.I	
##	[text2325, 689]	is no mention of ending		gun	
##	[text2325, 695]	violence or looking at sensible		gun	
##	[text2325, 709]	have asked. I introduced		Gun	
##	[text2325, 740]	penalties against those who use		guns	
##	[text2325, 759]	been able to get the		gun	
##	[text2325, 766]	but he was because the		gun	
##	[text2325, 1152]	the matrix of prison,		gun	
##	[text2326, 41]	safety of children also includes		gun	
##	[text2353, 50]	. A hail of violent		gunfire	
##	[text2627, 173]	himself to a hail of		gunfire	
##	[text2627, 193]	, he boldly engaged the		gunman	
##	[text2802, 35]	, Officer McNamara was brutally		gunned	
##	[text3153, 252]	many people are killed by		guns	

## violence prevention, with Gabby  
 ## control measures: background checks  
 ## in the home. Doctors  
 ## in the home. We  
 ## culture here that 335 million  
 ## , and that is life  
 ## . We called it no  
 ## . So we gathered our  
 ## safety legislation. As constitutional  
 ## violence is now met with  
 ## violence legislation to the floor  
 ## violence prevention.  
 ## . John Lewis is trying  
 ## violence in our country,  
 ## violence in our country.  
 ## violence in our country.  
 ## . As Mr. Cohen  
 ## violence epidemic, Republicans have  
 ## violence sit-in. Instead of  
 ## violence in this country,  
 ## control laws just have less  
 ## controllaws, like Chicago,  
 ## control laws have not helped  
 ## control laws there than we  
 ## Bedford, Jr.,  
 ## violence is so common that  
 ## trafficking a Federal crime,  
 ## violence and building a safer  
 ## , and a bill that  
 ## mercilessly unleashed a hail of  
 ## on passengers in the baggage  
 ## violence: first, shocking

```
## violence. Thoughts and prayers
## Control Act of 1968 limits
## in Dagestan. Varisov had
## violence in this country.
## got shot in the arm
## violence or looking at sensible
## safety regulations or laws,
## Violence Reduction Resources Act,
## wrong. In particular,
## , but he was because
## dealer was so easy and
## violence prevention that I have
## violence in their communities.
## suddenly rang out while three
## in order to protect his
## , now less than 5
## down and murdered in the
## -- that is outlawed
```

```
firearms <- quanteda::kwic(corpus115, "firearm*", window = 5, valuetype = "glob")
head(firearms, 50)
```

```
##
## [text1546, 143] of Active-Duty servicemembers to purchase | firearms |
## [text2977, 521] if they attempt to purchase | firearms |
## [text3182, 165] also unfit to own a | firearm |
## [text3184, 1158] rule is intended to keep | firearms |
## [text3184, 1203] identify individuals ineligible to possess | firearms |
## [text3195, 530] possess, or use a | firearm |
## [text3203, 203] the NICS database and their | firearms |
## [text3203, 213] their right to own a | firearm |
## [text3206, 98] low wages to obtain deadly | firearms |
## [text3206, 221] prohibited from purchasing or possessing | firearms |
## [text3206, 268] goal is to weaken our | firearms |
## [text3206, 451] rounds of ammunition from Roanoke | Firearms |
## [text3206, 503] nonetheless allowed to purchase a | firearm |
## [text3206, 740] categories of individuals from possessing | firearms |
## [text3206, 788] Prevention Act requires federally licensed | firearms |
## [text3206, 818] law from purchasing and possessing | firearms |
## [text3206, 951] passing background checks and purchasing | firearms |
## [text3206, 1233] law from purchasing or possessing | firearms |
## [text3393, 179] Second Amendment right to possess | firearms |
## [text3393, 299] their right to possess a | firearm |
## [text3393, 410] his right to possess a | firearm |
## [text3393, 469] the right to possess a | firearm |
## [text3393, 546] his ability to possess a | firearm |
## [text3395, 164] prohibited from purchasing and possessing | firearms |
## [text3395, 565] should be prohibited from possessing | firearms |
## [text3395, 912] to a longstanding category of | firearms |
## [text3395, 1195] , possess or use a | firearm |
## [text3395, 1439] , possess or use a | firearm |
## [text3395, 1663] safely possess or own a | firearm |
## [text3395, 2625] , possess or use a | firearm |
## [text3395, 2847] safely possess or own a | firearm |
## [text3395, 3943] inability to safely possess a | firearm |
```

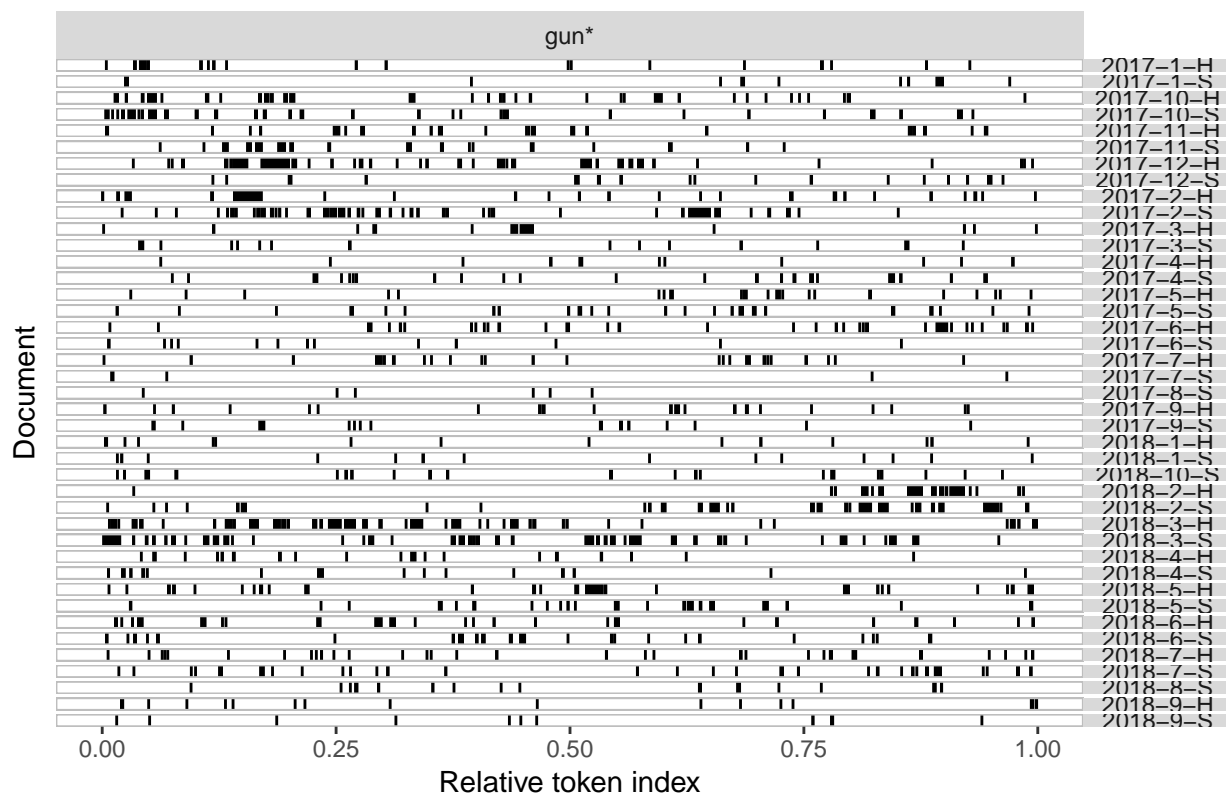
## [text3395, 4062]           enacting new regulations relating to | firearms |  
 ## [text3395, 4089]           from government regulation, since | firearms |  
 ## [text3395, 4118]                       or death. Therefore, | firearms |  
 ## [text3395, 4151]           do not oppose regulation of | firearms |  
 ## [text3395, 4172]                       same time, regulation of | firearms |  
 ## [text3396, 181]           that they shouldn't have a | firearm |  
 ## [text3396, 201]           Americans the right to own | firearms |  
 ## [text3401, 295]           the capacity to judiciously use | firearms |  
 ## [text3401, 369]                       of Alcohol, Tobacco, | Firearms |  
 ## [text3401, 518]           harm from having access to | firearms |  
 ## [text3404, 234]                       will be able to pass | firearm |  
 ## [text3405, 121]           being able to purchase a | firearm |  
 ## [text3405, 4831]                       to receive or possess a | firearm |  
 ## [text3405, 4851]           or her financial affairs( | Firearms |  
 ## [text3405, 4857]                       Rule). Under the | Firearms |  
 ## [text3405, 4910]                       law in the use of | firearms |  
 ## [text3405, 4913]           use of firearms. The | Firearms |  
 ## [text3405, 4928]                       . In addition, the | Firearms |  
 ##  
 ## in the State where they  
 ## . For the completely unrelated  
 ## . But this kind of  
 ## out of the hands of  
 ## because of severe mental health  
 ## . This arbitrary linkage not  
 ## are taken away, their  
 ## . Hardened criminals don't have  
 ## . The Republicans have brought  
 ## . The statute was enacted  
 ## background check system. The  
 ## for 571 dollars. The  
 ## . On December 14,  
 ## , including those who,  
 ## dealers to run background checks  
 ## . In response to the  
 ## . The only way we  
 ## to the National Instant Criminal  
 ## . This rule is a  
 ## when they have been convicted  
 ## . Additionally, at no  
 ## should be prohibited. Some  
 ## , the burden is on  
 ## , including felons, fugitives  
 ## under the statutory mental health  
 ## prohibition. Accordingly, we  
 ## .'' In addition  
 ## . This arbitrary linkage not  
 ## due to his or her  
 ## . This arbitrary linkage not  
 ## due to his or her  
 ## . The rule includes no  
 ## can raise difficult questions.  
 ## are inherently dangerous instrumentalities and  
 ## are subject to reasonable regulation

```
## as long as it is
## and individual gun ownership or
## . The Supreme Court in
## , but they also stated
## . By adding Social Security
## and Explosives to work with
## and explosives. This rule
## background checks solely because Congress
## , your name gets added
## , including for recreational hunting
## Rule). Under the
## Rule, the prohibition would
## . The Firearms Rule unfairly
## Rule unfairly attributes illegal conduct
## Rule fails in its attempt
```

**Medium** Now plot the kwic objects on the aggregated corpus to explore when and where these issues were discussed in the US Congress in the last two years.

```
quanteda::textplot_xray(kwic(aggregate115, "gun*", window = 5, valuetype = "glob"))
```

### Lexical dispersion plot



**Advanced** To make the previous plot a bit nicer, order the aggregated texts by year, month, chamber. To do this, you would need to modify the ordering of levels in the `aggregate115` dataset.

```
# Let us start from automatically creating the levels of text name
years <- rep(rep(c("2017", "2018"), times = c(12,11)), times = 2)
months <- rep(as.character(seq(1,12)), times = 2)
# Remove the last element as we don't have data for December 2018
months <- rep(months[-length(months)], times = 2)
```

```

chamber <- rep(c("H", "S"), each = 23)
# As Map() returns list we need to flatten it into vector
lev <- unlist(Map(function(x, y, z) paste(x, y, z, sep = "-"), years, months, chamber))

aggregate115 <- congress115 %>%
  dplyr::mutate(year = as.character(lubridate::year(date)),
               month = as.character(lubridate::month(date)),
               year_month_chamber = paste(year, month, chamber, sep = "-")) %>%
  dplyr::mutate(year_month_chamber = factor(year_month_chamber,
                                           levels = lev)) %>%

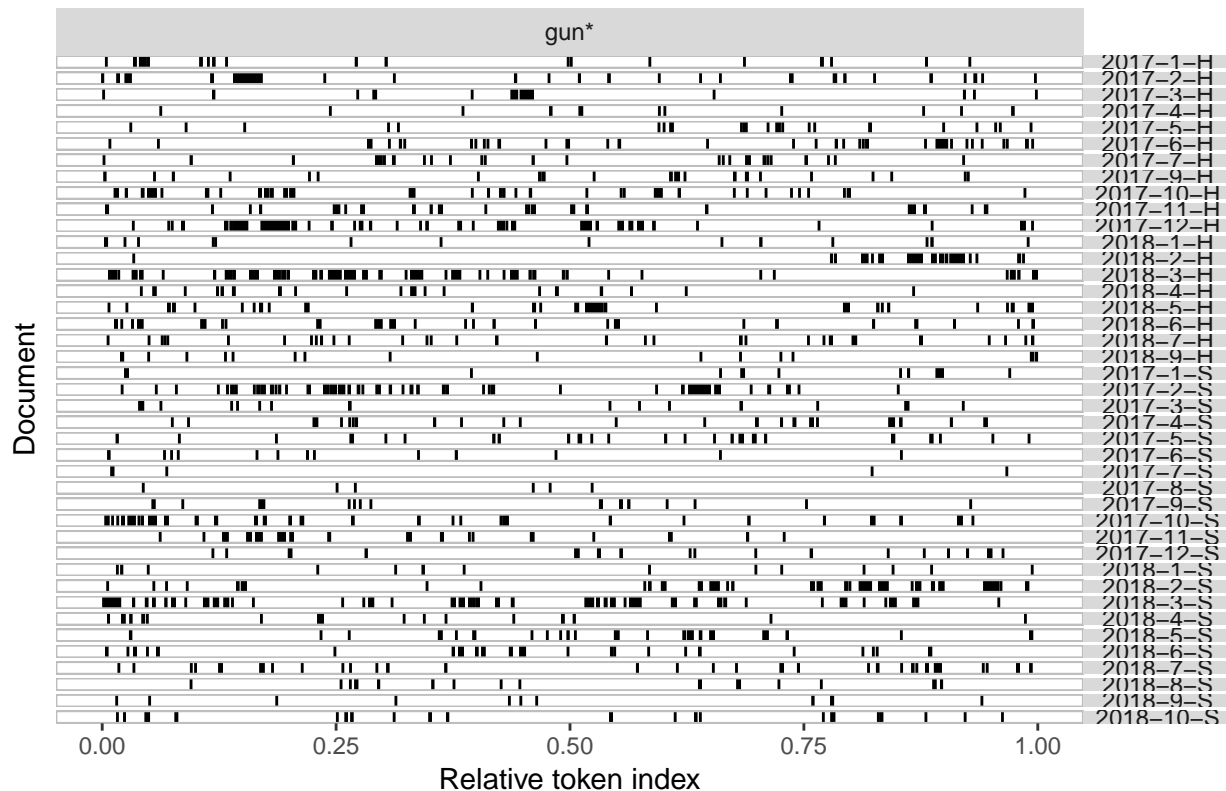
  dplyr::group_by(year_month_chamber) %>%
  dplyr::summarise(text = paste(text, collapse = " "))

aggregate115 <- quanteda::corpus(aggregate115,
                                docid_field = "year_month_chamber")

quanteda::textplot_xray(kwic(aggregate115, "gun*", window = 5, valuetype = "glob"))

```

### Lexical dispersion plot



The gun debate, seemingly, intensified around February-March 2018 in both chambers, in the aftermath of the number of school shootings. While Las Vegas shooting in October 2017 saw a spike in frequency of references to guns in Congress, it was less prominent than the one in early 2018.

**Subject Expert** Create a dictionary related to gun violence and firearms control and apply to Congress debates.