TRANSLATOR Hits for generated opposites

KBC

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The data

Data: I took terms from PATO and added oppositional prefixes. Some occur natively in PATO already, some don't. Then I did a quoted search of PubMed Central for all of them—non-negated, "native" negated, and generated.

Question: what happens if we try to validate generated negatives by seeing whether or not they actually get used?

Comparison with Chris's paper as of 2021-03-31

1. Wrote a script that converts Chris's id-id-logical-textual format to id-id. Required more mucking about than one might have expected, but: whatever.
2. For Chris's textual-evidence-only, logical-evidence-only, and both-kinds-of-evidence pairs, I used the UNIX command *comm* (thanks, Bill!) to find the size of the union of what he found with what I found.

The y-axis in these graphs is scaled to the total number of pairs found by all three of Chris's methods combined: 438.

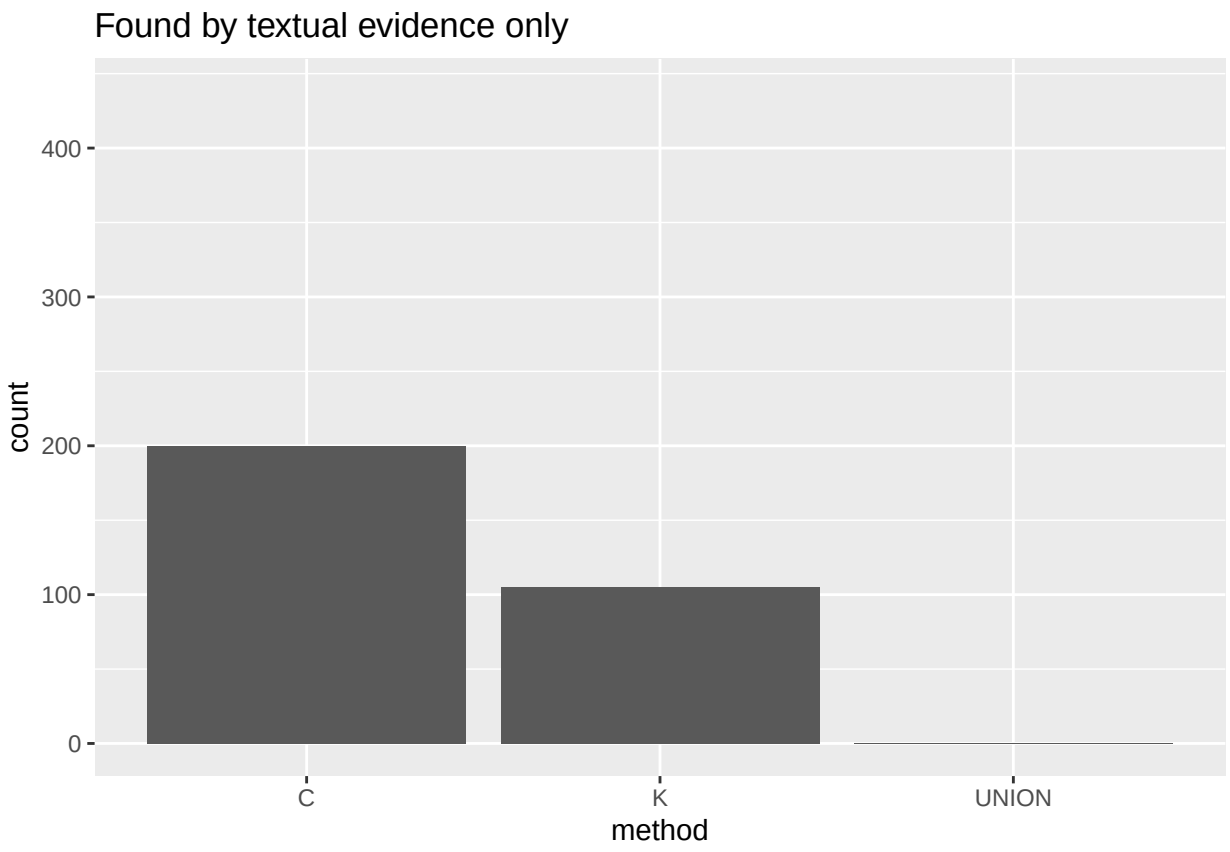
The number for K (what we are getting as of today) is constant across all three graphs at 105 pairs.

```
we.found.textual <- 105
chris.found.textual <- 200
overlap.textual <- 0

found.by <- as_tibble(rbind(
c("TEXT", "K", 105),
c("TEXT", "C", 200),
c("TEXT", "UNION", 0)
))
```

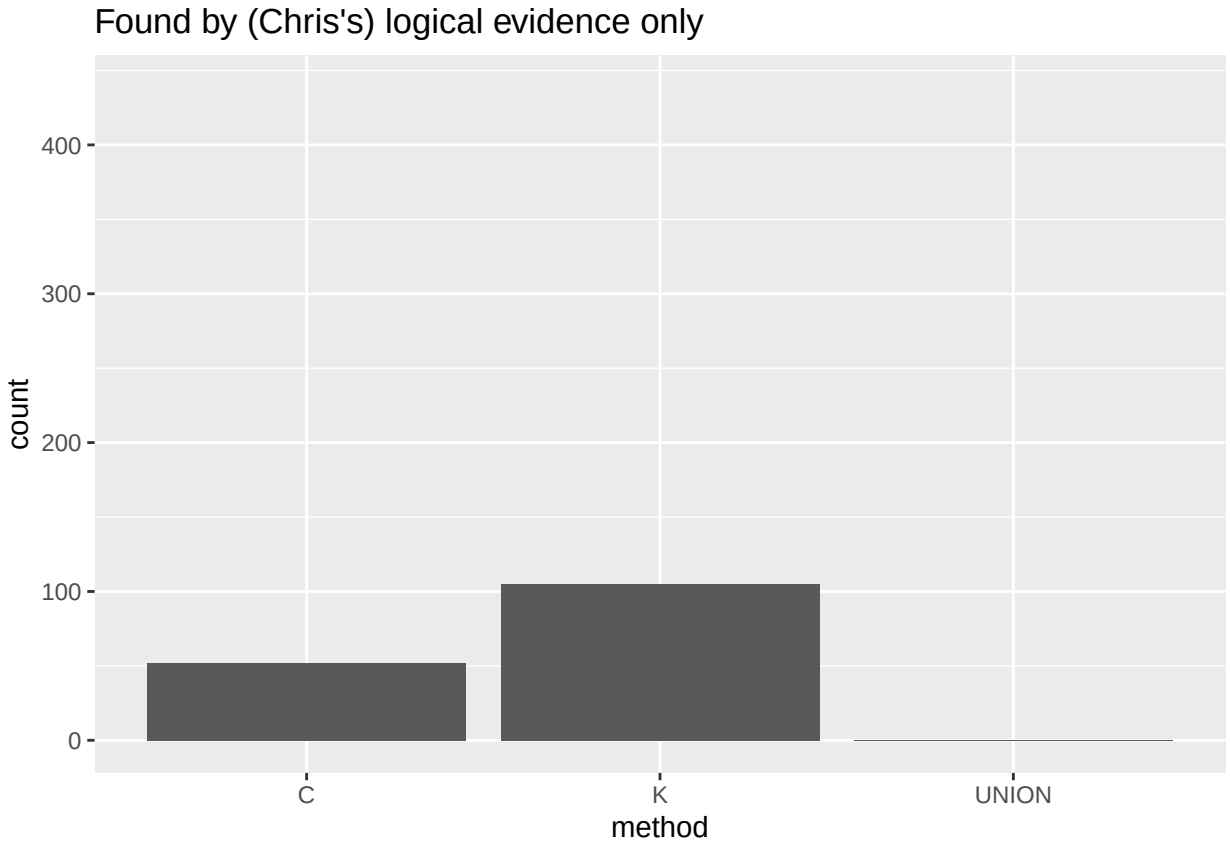
```
## Warning: The ‘x‘ argument of ‘as_tibble.matrix()‘ must have column names if ‘.name_repair‘ is omitte
## Using compatibility ‘.name_repair‘.
## This warning is displayed once every 8 hours.
## Call ‘lifecycle::last_warnings()‘ to see where this warning was generated.
```

```
# housekeeping: column names and types
colnames(found.by) <- c("evidence.from", "method", "count")
found.by$evidence.from <- as.factor(found.by$evidence.from)
found.by$method <- as.factor(found.by$method)
```

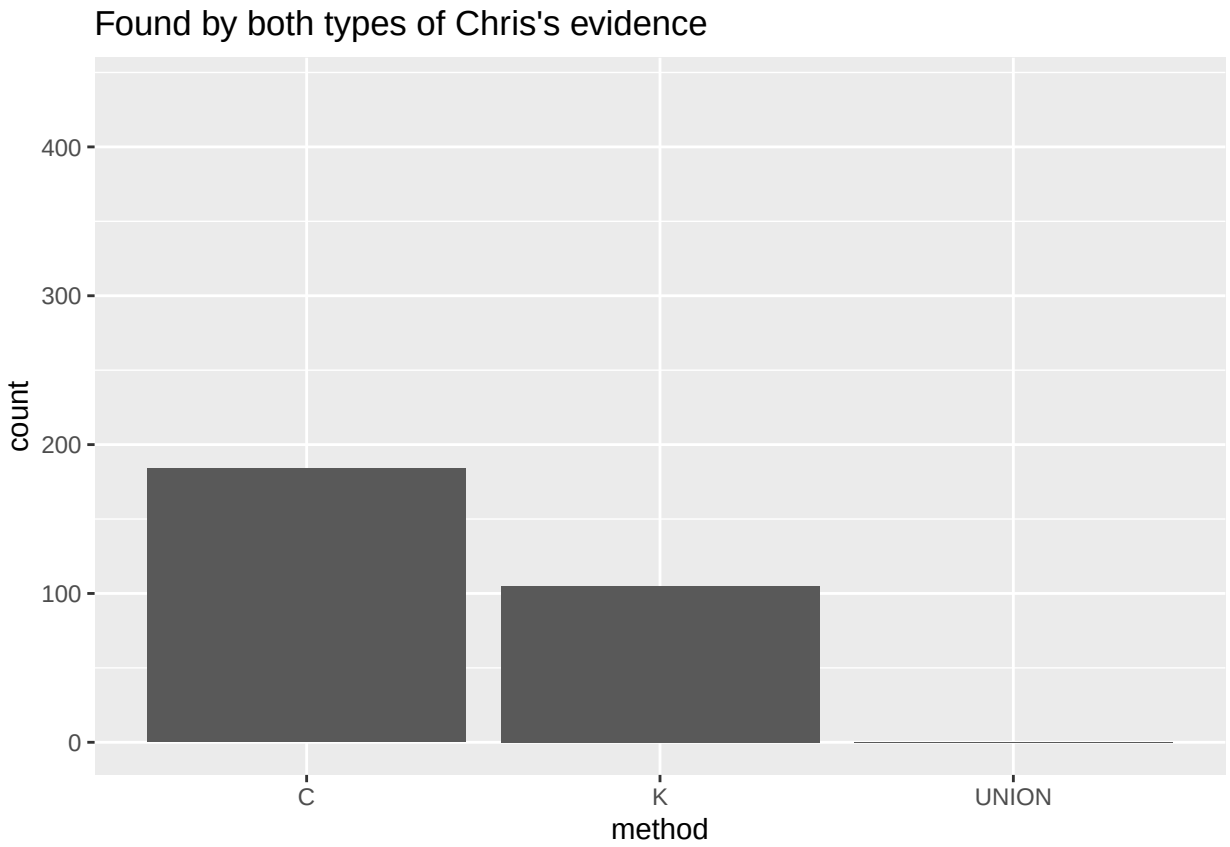
```
found.by$count <- as.integer(found.by$count)

ggplot(data = found.by, mapping = aes(x = method, y = count)) +
  geom_bar(stat = "identity") +
  ylim(0, 438) +
  labs(title = "Found by textual evidence only")
```




```
found.by <- as_tibble(rbind(
c("TEXT", "K", 105),
c("LOGICAL", "C", 52),
c("N/A", "UNION", 0)
))
# housekeeping: column names and types
colnames(found.by) <- c("evidence.from", "method", "count")
found.by$evidence.from <- as.factor(found.by$evidence.from)
found.by$method <- as.factor(found.by$method)
found.by$count <- as.integer(found.by$count)

ggplot(data = found.by, mapping = aes(x = method, y = count)) +
  geom_bar(stat = "identity") +
  ylim(0, 438) +
  labs(title = "Found by (Chris's) logical evidence only")
```




```
found.by <- as_tibble(rbind(
c("TEXT", "K", 105),
c("BOTH", "C", 184),
c("N/A", "UNION", 0)
))
# housekeeping: column names and types
colnames(found.by) <- c("evidence.from", "method", "count")
found.by$evidence.from <- as.factor(found.by$evidence.from)
found.by$method <- as.factor(found.by$method)
found.by$count <- as.integer(found.by$count)

ggplot(data = found.by, mapping = aes(x = method, y = count)) +
  geom_bar(stat = "identity") +
  ylim(0, 438) +
  labs(title = "Found by both types of Chris's evidence")
```



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.