Nutzung von GeoDaten in den Sozialwissenschaften - Das Arbeiten mit OpenStreetMap Daten

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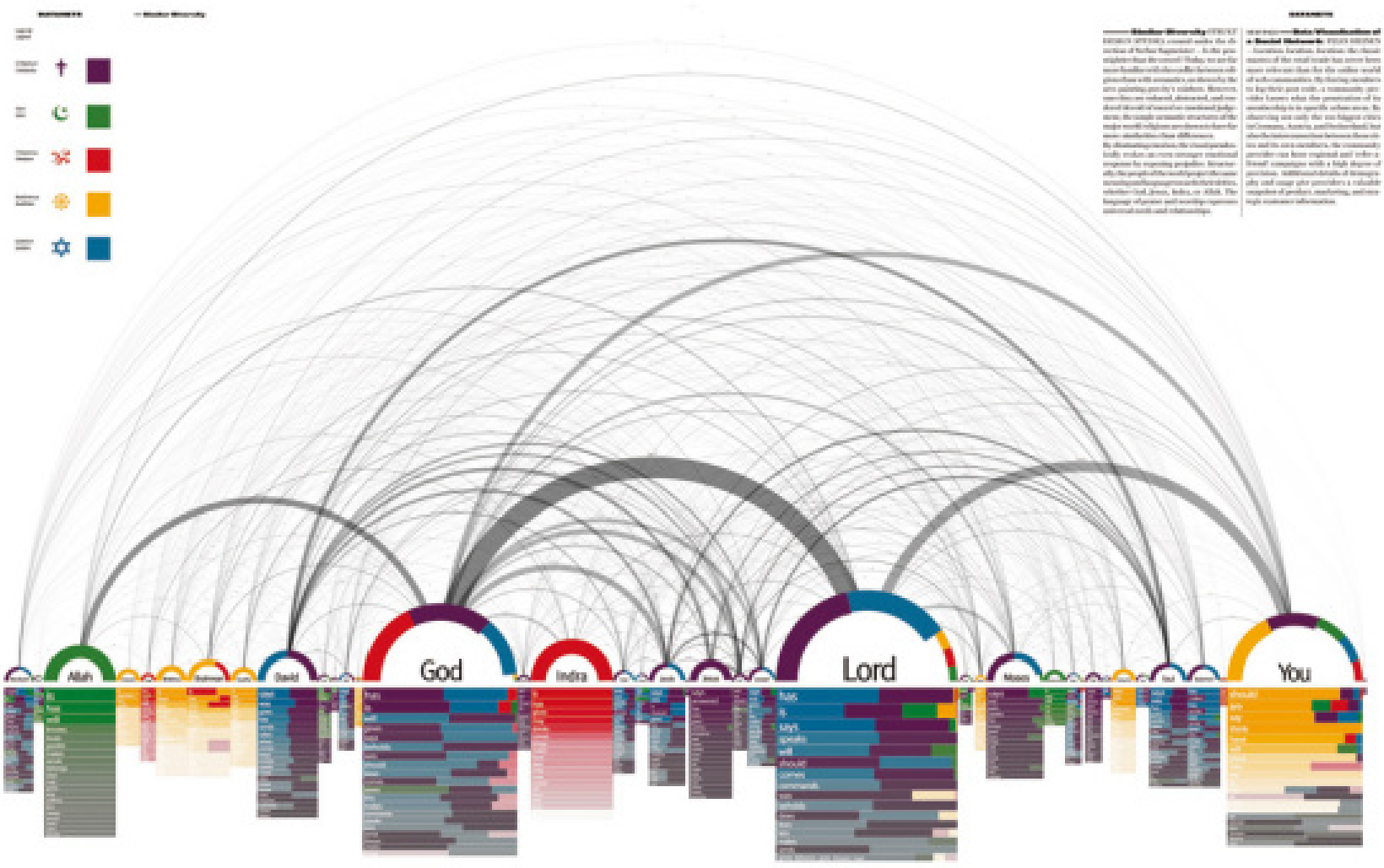
Ausschnitte herunterladen

<www.openstreetmap.org/export>

Figure 1: osm export

Das R-Paket XML - Gaston Sanchez

```
library("XML")
```



Wichtiger für mich:

Das Arbeiten mit XML Daten

`http://gastonsanchez.com/work/webdata/getting_web_data_r4_parsing_xml_html.pdf`

Figure 3: Manual von Gaston Sanchez

Funktionen im XML Paket

Function	Description
xmlName()	name of the node
xmlSize()	number of subnodes
xmlAttrs()	named character vector of all attributes
xmlGetAttr()	value of a single attribute
xmlValue()	contents of a leaf node
xmlParent()	name of parent node
xmlAncestors()	name of ancestor nodes
getSibling()	siblings to the right or to the left
xmlNamespace()	the namespace (if there's one)

Beispiel: administrative Grenzen Berlin

Administrative Grenzen für Deutschland

```
url <- "http://api.openstreetmap.org/api/0.6/
relation/62422"
```

```
BE <- xmlParse(url)
```

Figure 4: Administrative Grenzen Berlin

Das XML analysieren

- Tobi Bosede - Working with XML Data in R

```
xmltop = xmlRoot(BE)
class(xmltop)
```

```
## [1] "XMLInternalElementNode" "XMLInternalNode"
## [3] "XMLAbstractNode"
```

```
xmlSize(xmltop)
```

```
## [1] 1
```

```
xmlSize(xmltop[[1]])
```

```
## [1] 322
```

Xpath, the XML Path Language, is a query language for selecting nodes from an XML document.

```
xpathApply(BE,"//tag[@k = 'source:population']")
```

Mehr Beispiele, wie man mit XML Daten umgeht:

- Daten aus XML extrahieren

`http://www.stat.berkeley.edu/~statcur/Workshop2/Presentations/XML.pdf`

- Duncan Temple Lang - A Short Introduction to the XML package for R

`http://www.omegahat.org/RSXML/shortIntro.pdf`

Noch mehr Informationen

- Web Daten manipulieren

`http://www.di.fc.ul.pt/~jpn/r/web/index.html#parsing-xml`

- Information zu xquery

`http://www.w3schools.com/xquery/`

- R und das Web (für Anfänger), Teil II: XML und R

`http://giventhedata.blogspot.de/2012/06/r-and-web-for-beginners-part-ii-xml-in.html`

- String Manipulation

`http://gastonsanchez.com/Handling_and_Processing_Strings_in_R.pdf`

Referenzen

```
citation("XML")
```

```
##
## To cite package 'XML' in publications use:
##
##   Duncan Temple Lang and the CRAN Team (2016). XML: Tool
##   Parsing and Generating XML Within R and S-Plus. R pack
##   version 3.98-1.4. https://CRAN.R-project.org/package=X
##
## A BibTeX entry for LaTeX users is
##
##   @Manual{,
##     title = {XML: Tools for Parsing and Generating XML W
##     author = {Duncan Temple Lang and the CRAN Team},
##     year = {2016},
##     note = {R package version 3.98-1.4},
##     url = {https://CRAN.R-project.org/package=XML},
##   }
```