

Natural Language	Cypher Queries	NEO4J Results																
<b>► Main node: Method</b>																		
Which methods are used by authors the most?  Return the top 20, along with their names, wikidata urls and descriptions.	<pre> MATCH (p:Person)-[r:USES_METHOD]-&gt;(m:Method) RETURN COUNT(r) AS NumUses, m.name AS Method, m.wikidata_url AS WikidataURL, m.       description AS MethodDescription ORDER BY NumUses DESC LIMIT 20 </pre>	<table border="1"> <thead> <tr> <th>NumUses</th> <th>Method</th> <th>WikidataURL</th> <th>MethodDescription</th> </tr> </thead> <tbody> <tr> <td>68</td> <td>"pollen analysis"</td> <td>"https://www.wikidata.org/wiki/Q212919"</td> <td>"Palynology is the study of microorganisms and microscopic fragments of mega-organisms that are composed of acid-resistant organic material and occur in sediments, sedimentary rocks, and even some metasedimentary rocks. Palynomorphs are the microscopic, acid-resistant organic remains and debris produced by a wide variety of plants, animals, and Protista that have existed since the late Proterozoic."</td> </tr> <tr> <td>45</td> <td>"radiocarbon dating"</td> <td>"https://www.wikidata.org/wiki/Q173412"</td> <td>"Radiocarbon dating (also referred to as carbon dating or carbon-14 dating) is a method for determining the age of an object containing organic material by using the properties of radiocarbon, a radioactive isotope of carbon. The method was developed in the late 1940s at the University of Chicago by Willard Libby."</td> </tr> <tr> <td>37</td> <td>"AMS"</td> <td>"https://www.wikidata.org/wiki/Q530255"</td> <td>"Accelerator mass spectrometry (AMS) is a form of mass spectrometry that accelerates ions to extremely high kinetic energies before mass analysis."</td> </tr> </tbody> </table>	NumUses	Method	WikidataURL	MethodDescription	68	"pollen analysis"	"https://www.wikidata.org/wiki/Q212919"	"Palynology is the study of microorganisms and microscopic fragments of mega-organisms that are composed of acid-resistant organic material and occur in sediments, sedimentary rocks, and even some metasedimentary rocks. Palynomorphs are the microscopic, acid-resistant organic remains and debris produced by a wide variety of plants, animals, and Protista that have existed since the late Proterozoic."	45	"radiocarbon dating"	"https://www.wikidata.org/wiki/Q173412"	"Radiocarbon dating (also referred to as carbon dating or carbon-14 dating) is a method for determining the age of an object containing organic material by using the properties of radiocarbon, a radioactive isotope of carbon. The method was developed in the late 1940s at the University of Chicago by Willard Libby."	37	"AMS"	"https://www.wikidata.org/wiki/Q530255"	"Accelerator mass spectrometry (AMS) is a form of mass spectrometry that accelerates ions to extremely high kinetic energies before mass analysis."
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Which topics are most commonly covered in articles written by researchers who use radiocarbon dating, and what is the count of such articles per topic?	<pre> MATCH(m:Method) WHERE m.name = 'radiocarbon dating' WITH m MATCH(p:Person)-[r:USES_METHOD]-&gt;(m) WITH p,m MATCH(t:Topic)-[r:IS_TOPIC_OF]-&gt;(art:Article)&lt;-[r:IS_AUTHOR_OF]-(p) RETURN t.name AS Topics, COUNT(r) AS numRD ORDER BY numRD DESC </pre>	<table border="1"> <thead> <tr> <th>Topics</th> <th>numRD</th> </tr> </thead> <tbody> <tr> <td>"Biological sciences - Paleontology"</td> <td>77</td> </tr> <tr> <td>"Social Sciences"</td> <td>77</td> </tr> <tr> <td>"Archaeology"</td> <td>77</td> </tr> <tr> <td>"Botany &amp; Plant Sciences"</td> <td>42</td> </tr> <tr> <td>"Agriculture"</td> <td>42</td> </tr> <tr> <td>"Science &amp; Mathematics"</td> <td>42</td> </tr> <tr> <td>"Anthropology"</td> <td>30</td> </tr> </tbody> </table>	Topics	numRD	"Biological sciences - Paleontology"	77	"Social Sciences"	77	"Archaeology"	77	"Botany & Plant Sciences"	42	"Agriculture"	42	"Science & Mathematics"	42	"Anthropology"	30
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Which research methods are most commonly used by authors who write articles in the topic 'Archaeology,' and how many articles are associated with each method?

```

MATCH (p:Person)-[:USES_METHOD]->(m:Method)
MATCH (t:Topic {name: 'Archaeology'})-[:IS_TOPIC_OF]->(art:Article)<[:IS_AUTHOR_OF]-(p)
RETURN m.name AS Method, COUNT(*) AS NumUsesInArchaeology
ORDER BY NumUsesInArchaeology DESC
    
```

Method	NumUsesInArchaeology
"pollen analysis"	142
"radiocarbon dating"	77
"AMS"	75
"PCA"	57
"AMS radiocarbon dating"	54
"cluster analysis"	46
"variation partitioning"	42
"resitivity survey"	37

Regarding methods containing 'AMS', display all the information.

```

MATCH (m:Method)
WHERE m.name CONTAINS 'AMS'
AND m.qid IS NOT NULL
AND m.description IS NOT NULL
AND m.wikipedia_url IS NOT NULL
AND m.wikidata_url IS NOT NULL
AND m_aliases IS NOT NULL
AND size(m_aliases) > 0 // to exclude empty lists
RETURN m.name AS MethodName,
       m.qid AS QID,
       m.description AS Description,
       m.wikipedia_url AS WikipediaURL,
       m.wikidata_url AS WikidataURL,
       m_aliases AS Aliases
    
```

MethodName	QID	Description	WikipediaURL	WikidataURL	Aliases
"AMS- <sup>14</sup> C"	"Q173412"	"Radiocarbon dating (also referred to as carbon-14 dating or carbon-14 dating) is a method for determining the age of an object containing organic material by using the properties of radiocarbon, a radioactive isotope of carbon. The method was developed in the late 1940s at the University of Chicago by Willard Libby."	"https://en.wikipedia.org/wiki/Radiocarbon_dating" "https://www.wikidata.org/wikidatawiki/Q173412" ["carbon dating"]		
"AMS-dating"	"Q173412"	"Radiocarbon dating (also referred to as carbon-14 dating or carbon-14 dating) is a method for determining the age of an object containing organic material by using the properties of radiocarbon, a radioactive isotope of carbon. The method was developed in the late 1940s at the University of Chicago by Willard Libby."	"https://en.wikipedia.org/wiki/Radiocarbon_dating" "https://www.wikidata.org/wikidatawiki/Q173412" ["carbon dating"]		

Find all methods represented in articles published in 2016.

```
MATCH (art:Article)
WHERE art.publication_year = 2016
WITH art
MATCH (m:Method)<-[USES_METHOD]-(p:Person)-[IS_AUTHOR_OF]->(art)
WITH art, COLLECT(DISTINCT m.name) AS Methods
RETURN art.title AS Title, size(Methods) AS NumMethods, Methods
ORDER BY size(Methods) DESC
```

Title	NumMethods	Methods
"Unravelling the past 1,000 years of history of human-climate-landscape interactions at the Lindu plain, Sulawesi, Indonesia"	20	["pollen analysis", "cluster analysis", "PC A", "Multivariate classification trees (MCTs)", "splitting test", "PCA", "nonmetric multidimensional scaling (NMDS)", "correspondence analysis (CA)", "Procrustes analysis", "Detrended correspondence analysis (DCA)", "squared chord distance (SCD)", "principal components analysis (PCA)", "magnetostratigraphy", "Principal component analysis (PCA)", "multivariate statistical analysis", "sediment and pollen analysis", "radiocarbon dating", "remote sensing", "geomorphological analysis", "AMS radiocarbon dating"]
"Differentiating vegetation types from eastern South American ecosystems based on modern and subfossil pollen samples: evaluating modern analogues"	20	["cluster analysis", "PC A", "Multivariate classification trees (MCTs)", "splitting test", "PCA", "nonmetric multidimensional scaling (NMDS)", "correspondence analysis (CA)", "Procrustes analysis", "Detrended correspondence analysis (DCA)", "squared chord distance (SCD)", "principal components analysis (PCA)", "pollen analysis", "magnetostratigraphy", "Principal component analysis (PCA)", "multivariate statistical analysis", "sediment and pollen analysis", "radiocarbon dating", "remote sensing", "geomorphological analysis", "AMS radiocarbon dating"]

#### ► Main node: Activity

Find the articles that were published in 2016 and were referring to activities concerning "dating".

```
MATCH (act:Activity)-[:HAS_SENTENCE_CONTEXT]->(s:Sentence)-[:IS_PART_OF]->(art:Article)
WHERE toLower(act.textual_span) CONTAINS 'dating' AND art.publication_year = 2016
RETURN art.title AS ArticleTitle, COUNT(act) AS NumActivities
ORDER BY NumActivities DESC
```

ArticleTitle	NumActivities
"High-Precision Radiocarbon Dating Application to Multi-proxy Organic Materials From Late Foraging To Early Pastoral Sites In Upper Nubia, Sudan"	1
"Understanding the human impact on Akita-sugi cedar ( <i>Cryptomeria japonica</i> ) forest in the late Holocene through pollen analysis of annually laminated sediments from Ichi-no-Megata, Akita, Japan"	1
"Late Holocene regime shifts in moorland ecosystems: high resolution data from the Pennines, UK"	1
"Impact of landscape changes on obsidian exploitation since the Palaeolithic in the central highland of Japan"	1
"Vegetation and fire history of coastal north-eastern Sardinia (Italy) under changing Holocene climates and land use"	1

Regarding the top 10 activites that appear more, return authors who have participated in them.

```

MATCH (p:Person)-[r:PARTICIPATES_IN]->(a:Activity)
WITH a, COUNT(r) AS NumOfAuthors, COLLECT(p.full_name) AS Authors
RETURN a.textual_span AS Activity, NumOfAuthors, Authors
ORDER BY Participants DESC
LIMIT 10
    
```

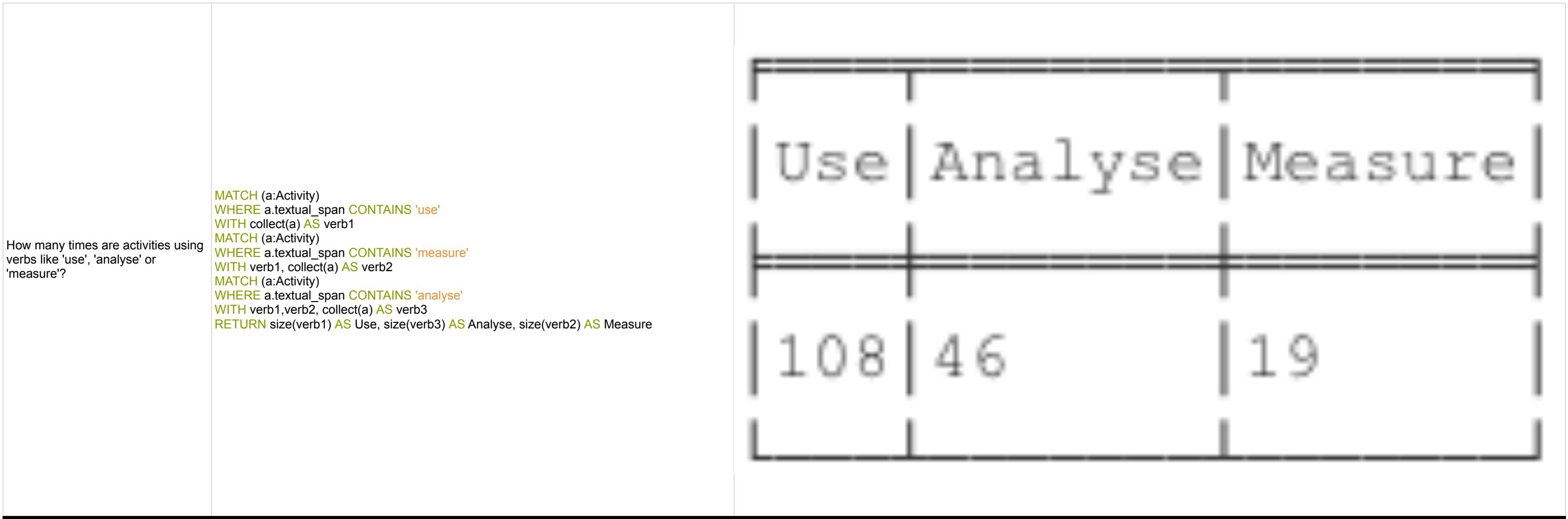
Activity	Participants	Authors
"Previously sampled loci and newly discovered brush hut remains and hearth concentrations were excavated"	36	[YOSSI ZAIDNER", "LIAOR WEISSBROD", "HANNA HALBI", "AHOD", "GORDON GRINBERG", "TALOON GRIBOV", "YONI AMAR", "SHOMER AFSCOR, "URIT ZOHAR", "EHUD WEISS", "TAL SIMMONS", "RIVKA RABINOVICH", "ISRAEL HERSHKOVITZ", "MORDECHAI KISLEV", "ELIZABETTA BLOOM", "DANI ALHA BR-YOSEF MAIYIR", "ALEXANDER TSATSKIN", "Dani Nadel"]
"a resistivity survey was carried out by Kerry Ely, Richard McConnell, and Alex Turner"	36	["Steven Allen", "David Richards", "Norman Shiel", "Jane Timby", "Sheila Hamilton-Dyer", "Gerard Aalbersberg", "Huw Williams", "Heather Tinsley", "David Smith", "Anthony Margetts", "Jen Heathcote", "Simon Haslett", "Chris Gleed-Owen", "Simon Dobinson", "Paul Davies", "Nigel Cameron", "Julie Jones", "H. Williamson", "Timothy T. Smith", "Mike

Find authors using the same methods with 'Robyn Pickering' and also the number of activities that they have participated in.

```

MATCH (p:Person {full_name: 'Robyn Pickering'})-[:USES_METHOD]->(m:Method)
WITH p, COLLECT(DISTINCT m) AS Methods
UNWIND Methods AS x
MATCH (per:Person)-[:USES_METHOD]-(x)
WITH per,x
MATCH (per)-[:PARTICIPATES_IN]->(a:Activity)
RETURN per.full_name AS Authors, x.name AS Methods,
COUNT(a) AS NumActivities
    
```

Authors	Methods	NumActivities
"Robyn Pickering"	"laser ablation concentration"	2



#### ► Main node: Goal

Retrieve all methods that are used by activities which have objectives related to "analysis" or "date".	<pre> MATCH (g:Goal)-[:HAS_OBJECTIVE]-(a:Activity)-[:EMPLOYS]-&gt;(m:Method) WHERE g.textual_span CONTAINS 'analysis' OR g.textual_span CONTAINS 'date' RETURN DISTINCT m.name AS MethodName ORDER BY m.name </pre>	<table border="1"> <thead> <tr> <th>MethodName</th> </tr> </thead> <tbody> <tr><td>"Detrended correspondence analysis (DCA)"</td></tr> <tr><td>"Redundancy analysis (RDA)"</td></tr> <tr><td>"Tuff I group method"</td></tr> <tr><td>"archaeological and dendrochronological analyses"</td></tr> <tr><td>"linear regression"</td></tr> <tr><td>"trace element analysis"</td></tr> </tbody> </table>	MethodName	"Detrended correspondence analysis (DCA)"	"Redundancy analysis (RDA)"	"Tuff I group method"	"archaeological and dendrochronological analyses"	"linear regression"	"trace element analysis"
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"Tuff I group method"									
"archaeological and dendrochronological analyses"									
"linear regression"									
"trace element analysis"									

Retrieve all authors who participate in activities employing specific methods and whose objectives relate to "reconstruct" or "vegetation" or "environment". For each author, show the methods used and the corresponding goal.

```

MATCH (p:Person)-[:PARTICIPATES_IN]->(a:Activity)-[:EMPLOYS]->(m:Method)
MATCH (a)-[:HAS_OBJECTIVE]->(g:Goal)
WHERE g.textual_span CONTAINS 'reconstruct'
AND (g.textual_span CONTAINS 'environment' OR g.textual_span CONTAINS 'vegetation')
RETURN DISTINCT p.full_name AS Author,
COLLECT(DISTINCT m.name) AS Methods, g.textual_span AS Goal
ORDER BY Author
    
```

Author	Methods	Goal
"Aaron P. Potito"	["Pollen analysis"]	"reconstruct vegetation"
"Arghya K. Hait"	["sediment and pollen analysis"]	"reconstruct the Holocene mangrove and environmental changes at a coastal site Pakhralaya in the Sundarban Biosphere Reserve in the western Ganga-Brahmaputra Delta, India"
"Carole Adolf"	["charcoal analysis"]	"reconstruct the vegetation and fire history in north-eastern Sardinia"
"Carole Adolf"	["pollen and spore analysis"]	"reconstruct extra-local to regional vegetation dynamics"
"Carole Adolf"	["pollen and spore analysis"]	"reconstruct local vegetation dynamics"
"Daniele Colombaroli"	["charcoal analysis"]	"reconstruct the vegetation and fire history in north-eastern Sardinia"
"Daniele Colombaroli"	["pollen and spore analysis"]	"reconstruct extra-local to regional vegetation dynamics"
"Daniele Colombaroli"	["pollen and spore analysis"]	"reconstruct local vegetation dynamics"

Find authors the use methods for objectives that are related to 'comparison'.

```

MATCH (a:Activity)-[r:HAS_OBJECTIVE]->(g:Goal)
WHERE g.textual_span CONTAINS 'compare'
WITH a,g
MATCH (a)-[:EMPLOYS]->(m:Method)
WITH a,g,m
MATCH (p:Person)-[:USES_METHOD]->(m)
WITH m, collect(p.full_name) AS Authors
RETURN DISTINCT m.name AS Methods, Authors
ORDER BY Methods
    
```

Methods	Authors
"Pearson's chi-square test"	["Linda G. Lynch"]
"Principal component analysis (PCA)"	["Hermann Behling", "Guillaume St-Onge", "Liang-Chi Wang", "Torsten Haberzettl", "Siriia Biagioni"]
"Procrustes analysis"	["Thomas Giesecke", "Hermann Behling", "Jackson Martins Rodrigues"]
"detrended canonical correspondence analysis (DCC A)"	["Althea L. Davies"]
"principal components analysis (PCA)"	["Althea L. Davies"]
"radiocarbon analysis"	["Michele L. Koons"]
"squared chord distance (SCD)"	["Thomas Giesecke", "Hermann Behling", "Jackson Martins Rodrigues"]

► Main node: Person

<p>Retrieve all scholars (authors), their affiliated organizations, and the number of distinct articles each authors has authored. Then, list them in descending order of their publication count.</p>	<pre> MATCH (p:Person)-[:IS_AFFILIATED_TO]-&gt;(org:Organization) MATCH (p)-[:IS_AUTHOR_OF]-&gt;(art:Article) RETURN p.full_name AS Scholar, org.name AS Organization, COUNT(DISTINCT art) AS Publications ORDER BY Publications DESC     </pre>	<table border="1"> <thead> <tr> <th>Scholar</th> <th>Organization</th> <th>Publications</th> </tr> </thead> <tbody> <tr> <td>"Hermann Behling"</td> <td>"Universtiy of Göttingen"</td> <td>9</td> </tr> <tr> <td>"Fiona Petchey"</td> <td>"University of Waikato"</td> <td>4</td> </tr> <tr> <td>"William A. Lovis"</td> <td>"Michigan State University"</td> <td>4</td> </tr> <tr> <td>"William A. Lovis"</td> <td>"New York University"</td> <td>4</td> </tr> </tbody> </table>	Scholar	Organization	Publications	"Hermann Behling"	"Universtiy of Göttingen"	9	"Fiona Petchey"	"University of Waikato"	4	"William A. Lovis"	"Michigan State University"	4	"William A. Lovis"	"New York University"	4
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<p>Create a table with authors and the methods that they are using, starting from the scholars that use the most methods.</p>	<pre> MATCH (p:Person)-[:USES_METHOD]-(m:Method) RETURN p.full_name AS Name, COUNT(*) AS Total, COLLECT(m.name) AS Methods ORDER BY Total DESC     </pre>	<table border="1"> <thead> <tr> <th>Name</th> <th>Total</th> <th>Methods</th> </tr> </thead> <tbody> <tr> <td>"Hermann Behling"</td> <td>27</td> <td>[["pollen analysis", "AMS radiocarbon dating", "geomorphological analysis", "remote sensing", "radiocarbon dating", "pollen analysis", "pollen analysis", "sediment and pollen analysis", "pollen analysis", "magnetostratigraphy", "multivariate statistical analysis", "Principal component analysis (PCA)", "magnetostratigraphy", "principal components analysis (PCA)", "PCA", "squared chord distance (SCD)", "Detrended correspondence analysis (DCA)", "Procrustes analysis", "correspondence analysis (CA)", "nonmetric multidimensional scaling (NMDS)", "PC A", "cluster analysis", "PCA", "splitting test", "Multivariate classification trees (MCTs)", "PC A", "cluster analysis"]]</td> </tr> <tr> <td>"Ian A. Simpson"</td> <td>17</td> <td>[["model analyses", "autoregressive integrated moving-average (ARIMA) model", "AMS radiocarbon dating", "pollen analysis", "AMS dating", "soil analyses", "Dumas technique", "gas chromatography", "rarefaction analysis", "Kjeldahl method", "Dumas technique", "acid-persulfate digestion", "soil analysis", "Walkley-Black method", "micromorphology", "Akaike's information criterion (AIC)", "CENTURY modeling"]]</td> </tr> <tr> <td>"Thomas Giesecke"</td> <td>14</td> <td>[["principal components analysis (PCA)", "PCA", "squared chord distance (SCD)", "Detrended correspondence analysis (DCA)", "Procrustes analysis", "correspondence analysis (CA)", "nonmetric multidimensional scaling (NMDS)", "PCA", "cluster analysis", "PCA", "splitting test", "Multivariate classification trees (MCTs)", "PC A", "cluster analysis"]]</td> </tr> <tr> <td>"Jackson Martins Rodrigues"</td> <td>14</td> <td>[["principal components analysis (PCA)", "PCA", "squared chord distance (SCD)", "Detrended correspondence analysis (DCA)", "Procrustes analysis", "correspondence analysis (CA)", "nonmetric multidimensional scaling (NMDS)", "PCA", "cluster analysis", "PCA", "splitting test", "Multivariate classification trees (MCTs)", "PC A", "cluster analysis"]]</td> </tr> </tbody> </table>	Name	Total	Methods	"Hermann Behling"	27	[["pollen analysis", "AMS radiocarbon dating", "geomorphological analysis", "remote sensing", "radiocarbon dating", "pollen analysis", "pollen analysis", "sediment and pollen analysis", "pollen analysis", "magnetostratigraphy", "multivariate statistical analysis", "Principal component analysis (PCA)", "magnetostratigraphy", "principal components analysis (PCA)", "PCA", "squared chord distance (SCD)", "Detrended correspondence analysis (DCA)", "Procrustes analysis", "correspondence analysis (CA)", "nonmetric multidimensional scaling (NMDS)", "PC A", "cluster analysis", "PCA", "splitting test", "Multivariate classification trees (MCTs)", "PC A", "cluster analysis"]]	"Ian A. Simpson"	17	[["model analyses", "autoregressive integrated moving-average (ARIMA) model", "AMS radiocarbon dating", "pollen analysis", "AMS dating", "soil analyses", "Dumas technique", "gas chromatography", "rarefaction analysis", "Kjeldahl method", "Dumas technique", "acid-persulfate digestion", "soil analysis", "Walkley-Black method", "micromorphology", "Akaike's information criterion (AIC)", "CENTURY modeling"]]	"Thomas Giesecke"	14	[["principal components analysis (PCA)", "PCA", "squared chord distance (SCD)", "Detrended correspondence analysis (DCA)", "Procrustes analysis", "correspondence analysis (CA)", "nonmetric multidimensional scaling (NMDS)", "PCA", "cluster analysis", "PCA", "splitting test", "Multivariate classification trees (MCTs)", "PC A", "cluster analysis"]]	"Jackson Martins Rodrigues"	14	[["principal components analysis (PCA)", "PCA", "squared chord distance (SCD)", "Detrended correspondence analysis (DCA)", "Procrustes analysis", "correspondence analysis (CA)", "nonmetric multidimensional scaling (NMDS)", "PCA", "cluster analysis", "PCA", "splitting test", "Multivariate classification trees (MCTs)", "PC A", "cluster analysis"]]
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<p>Select authors who are affiliated with an organization and calculate how many publications they have.</p>	<pre> MATCH (p:Person)-[:IS_AUTHOR_OF]-&gt;(art:Article) RETURN p.full_name AS Author, COUNT(DISTINCT art) AS NumWorks ORDER BY NumWorks DESC LIMIT 100     </pre>	<table border="1"> <thead> <tr> <th>Author</th> <th>NumWorks</th> </tr> </thead> <tbody> <tr> <td>"Hermann Behling"</td> <td>9</td> </tr> <tr> <td>"Anneli Poska"</td> <td>7</td> </tr> <tr> <td>"Thomas Giesecke"</td> <td>6</td> </tr> <tr> <td>"John P. Hart"</td> <td>5</td> </tr> <tr> <td>"Ian A. Simpson"</td> <td>5</td> </tr> </tbody> </table>	Author	NumWorks	"Hermann Behling"	9	"Anneli Poska"	7	"Thomas Giesecke"	6	"John P. Hart"	5	"Ian A. Simpson"	5			
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Display all publishers ordered by how many articles are published by each.

```
MATCH (art:Article)
WITH COLLECT (DISTINCT art.publisher) AS pub, art UNWIND pub AS x WITH x, COUNT
(art) AS NumArticles
RETURN x AS Publisher, NumArticles
ORDER BY NumArticles DESC
```

Publisher	NumArticles
"Springer"	228
"Maney Publishing"	33
"Society for American Archaeology"	31
"Wiley"	29
"South African Archaeological Society"	20
"Paleorient and CNRS Editions"	20
"Taylor & Francis, Ltd."	16
"Eastern States Archeological Federation"	15
"Wordwell Ltd."	13

#### ► Main node: Topic

Find all researchers that have authored articles related to "Enviromental Studies".

```
MATCH (t:Topic {name: 'Environmental Studies'})-[:IS_TOPIC_OF]->(art:Article)
WITH art
MATCH (p:Person)-[:IS_AUTHOR_OF]->(art)
WITH art, COLLECT(p.full_name) AS Authors
RETURN art.title AS Title, Authors
ORDER BY Title ASC
```

Title	Authors
"A Boat Load of Vikings?"	["Simon R. Chenery", "Angela Boyle", "David Score", "Jane A. Evans", "Carolyn A. Chenery"]
"Fine-spatial Paleoecological Investigations Towards Reconstructing Late Holocene Environmental Change, Landscape Evolution, and Farming Activity in Barrees, Beara Peninsula, Southwestern Ireland"	["Michael O'Connell", "Anette Overland"]
"Stable Carbon and Nitrogen Isotopic Measurements of the Wild Animals Hunted by the Norse and the Neo-Eskimo People of Greenland"	["Jette Arneborg", "Jan Heinemeier", "Jeppe Møhl", "D. Erle Nelson"]
"Vatnahverfi"	["J. Edward Schofield", "Kevin J. Edwards", "Paul M. Ledger"]
"Land Snails, Sand Dunes, and Archaeology in the Outer Hebrides"	["Nigel Thew", "Matt Law"]
"Viking Faroes"	["Simun V. Arge"]

Find the most popular research topics of the publisher with the most publications.

```
//Find the publishers with the most articles
MATCH (a:Article)
WITH a.publisher AS publisher, COUNT(a) AS numArticles
ORDER BY numArticles DESC
LIMIT 1

//For that publisher, find the most popular topics
MATCH (t:Topic)-[:IS_TOPIC_OF]->(art:Article {publisher: publisher})
RETURN publisher AS Publisher, t.name AS Topic, COUNT(art) AS Popularity
ORDER BY Popularity DESC
```

Publisher	Topic	Popularity
"Springer"	"Social Sciences"	228
"Springer"	"Archaeology"	228
"Springer"	"Biological sciences - Paleontology"	220
"Springer"	"Botany & Plant Sciences"	148
"Springer"	"Agriculture"	148
"Springer"	"Science & Mathematics"	148
"Springer"	"Biological sciences - Ecology"	66
"Springer"	"Area Studies"	25
"Springer"	"African Studies"	25
"Springer"	"History"	13

#### ► Main node: Aggregation

Find which Journals are preferred from researchers that are affiliated to 'Yale University'.

```
MATCH (p:Person)-[:IS_AFFILIATED_TO]->(org:Organization {name: "Yale University"})
WITH COLLECT(p) AS yaleScholars
UNWIND yaleScholars AS x
MATCH (x)-[:IS_AUTHOR_OF]->(art:Article)
WITH art
MATCH (art)-[:IS_MEMBER_OF]->(ag:Aggregation)
RETURN DISTINCT ag.name AS Aggregations
ORDER BY Aggregations
```

Aggregations

"Journal of World Prehistory"

"The African Archaeological Review"

"The South African Archaeological Bulletin"

"Vegetation History and Archaeobotany"

Find aggregations related to 'regression' methods, return the methods names and group them by number of articles.

```

MATCH (a:Activity)-[:EMPLOYS]->(m:Method)
WHERE m.name CONTAINS 'regression'
WITH m
MATCH(p:Person)-[:USES_METHOD]->(m)
WITH m,p
MATCH (p)-[:IS_AUTHOR_OF]->(art:Article)
WITH m,art
MATCH (art)-[:IS_MEMBER_OF]->(ag:Aggregation)
RETURN m.name AS Methods, COUNT(DISTINCT art) AS NumArticles, COLLECT
(DISTINCT ag.name) AS Aggregations
ORDER BY numArticles DESC

```

Methods	NumArticles	Aggregations
"Whallon's (1969) regression"	5	[ "Archaeology of Eastern North America", "American Antiquity", "Midcontinental Journal of Archaeology", "Journal of Archaeological Research" ]
"Linear regressions"	3	[ "The African Archaeological Review", "The South African Archaeological Bulletin" ]
"linear regression"	3	[ "The African Archaeological Review", "The South African Archaeological Bulletin" ]

Find the top 20 aggregations that are linked to the largest number of topics. For each aggregation, count how many distinct topics are associated with the articles that belong to it, and sort the aggregations from most to fewest topics.

```

MATCH (t:Topic)-[:IS_TOPIC_OF]->(art:Article)
MATCH (art)-[:IS_MEMBER_OF]->(ag:Aggregation)
RETURN ag.name AS Aggregation, COUNT(DISTINCT t) AS NumTopics
ORDER BY NumTopics DESC
LIMIT 20

```

Aggregation	numTopics
"American Journal of Archaeology"	17
"Latin American Antiquity"	17
"Human Ecology"	16
"Historical Archaeology"	15
"Ancient Mesoamerica"	13
"Bulletin of the American Schools of Oriental Research"	11
"Vegetation History and Archaeobotany"	11

► Main node: Organization

<p>Display the semantic path that associates 'Aristotle University of Thessaloniki' with the 'coring' method.</p> <pre>MATCH path = shortestPath((m:Method)-[*]-(org:Organization)) WHERE m.name = 'coring' AND org.name = 'Aristotle University of Thessaloniki' RETURN path</pre>		<p><b>Overview</b></p> <p><b>Node labels</b></p> <ul style="list-style-type: none"> <li>* (36) Method (11)</li> <li>Organization (1) Sentence (9)</li> <li>Article (11) Person (3) Topic (1)</li> </ul> <p><b>Relationship types</b></p> <ul style="list-style-type: none"> <li>* (35)       <ul style="list-style-type: none"> <li>HAS_SENTENCE_CONTEXT (9)</li> <li>IS_PART_OF (9) IS_TOPIC_OF (11)</li> <li>IS_AUTHOR_OF (3)</li> <li>IS_AFFILIATED_TO (1)</li> <li>USES_METHOD (2)</li> </ul> </li> </ul> <p>Displaying 36 nodes, 35 relationships.</p>																						
<p>Find all authors that participate in activities employing the method "pollen analysis" and display their name and ORCID number.</p> <pre>MATCH (p:Person)-[:PARTICIPATES_IN]-&gt;(a:Activity)-[:EMPLOYS]-&gt;(m:Method) WHERE toLower(m.name) = 'pollen analysis' RETURN DISTINCT p.full_name AS Author, p.orcid AS ORCID ORDER BY Author</pre>	<table border="1"> <thead> <tr> <th>Author</th> <th>ORCID</th> </tr> </thead> <tbody> <tr> <td>"Aaron P. Potito"</td> <td>"0000-0003-0194-9552"</td> </tr> <tr> <td>"Andrea Cardarelli"</td> <td>"0000-0003-1601-3394"</td> </tr> <tr> <td>"Andrew J. Dugmore"</td> <td>"0000-0001-6556-717X"</td> </tr> <tr> <td>"Anna Maria Mercuri"</td> <td>null</td> </tr> <tr> <td>"Anna Shevtsova"</td> <td>null</td> </tr> <tr> <td>"Anne E. Bjune"</td> <td>"0000-0002-4509-0148"</td> </tr> <tr> <td>"Anneli Poska"</td> <td>null</td> </tr> <tr> <td>"Björn E. Berglund"</td> <td>null</td> </tr> <tr> <td>"Carla Alberta Accorsi"</td> <td>null</td> </tr> <tr> <td>"Clarisse Beltrão Smith"</td> <td>null</td> </tr> </tbody> </table>	Author	ORCID	"Aaron P. Potito"	"0000-0003-0194-9552"	"Andrea Cardarelli"	"0000-0003-1601-3394"	"Andrew J. Dugmore"	"0000-0001-6556-717X"	"Anna Maria Mercuri"	null	"Anna Shevtsova"	null	"Anne E. Bjune"	"0000-0002-4509-0148"	"Anneli Poska"	null	"Björn E. Berglund"	null	"Carla Alberta Accorsi"	null	"Clarisse Beltrão Smith"	null	
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Show a table with scholars and the total number of organizations they are affiliated to.

```
MATCH (p:Person)-[:IS_AFFILIATED_TO]-(org:Organization)
RETURN p.full_name AS Authors, COUNT(*) AS NumAffiliations
ORDER BY NumAffiliations DESC
```

Authors	NumAffiliations
"Francesca Romagnoli"	25
"SHAW BADENHORST"	13
"Ernst Pernicka"	13
"Josef Veselý"	13
"Mary C. Stiner"	11