**Traces Through Time**

**Neo4j SCHEMA**

**v1.3**

**February 2015**

Nodes are in **:Bold** CamelCase, prefixed by a colon.

Node property names are in lower-case **bold**.

Variable examples of property values are in *green*.

List examples of property values are in blue.

NB. All nodes have an optional **comments** property for general notes / comments of any kind.

Edges (predicates) are as bracketed [:UPPER\_CASE] with underscores, prefixed by a colon.

Edge properties are in red CamelCase, suffixed by a colon.

Edge properties are always *optional* unless otherwise stated.

NB. All edges have an optional comments property for general notes / comments of any kind.

*Property names are generic wherever possible (ref, type, name) to avoid proliferation of names.*

*Examples provided throughout this document come as unqualified CYPHER statements. A general illustration using JSON is also available as an Appendix.*

*The primary* **:Person** *node is defined first, followed by all other nodes in alphabetical order.*

**:Person**

**ref** {id} mandatory *(TTT000000001)*

*Property name is ‘ref’ (not ‘id’) to avoid conflict with Neo4j’s in-built node ‘id’*

**type** {list} mandatory male|female|other|unknown

*Values can be inferred from document or from conventional name usage; otherwise unknown*

**upload\_date** {timestamp} mandatory *(2014-11-11T00:00:00)*

*To indicate the date/time that a person was added to a TTT database or record*

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[:HAS\_AGE] {certain: 0|1, dateStart: \*, dateEnd: \*, type: “approx|exact”} **:Age**

optional; 0 or 1

*Where exact DOB or DOD is not known but an age can be inferred from the document.*

*Use* certain *to indicate confidence in the assertion. True (1) by default.*

**Example:** *“Harrison celebrated his 21st birthday at the height of the 60s”*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “Harrison”})

(x:Person)-[:HAS\_AGE {dateStart: 1960, dateEnd: 1969, type: “approx”}]->(b:Age {start: 21})

**Example:** *“Harrison died from cancer in 2001 whilst still only in his fifties”*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “Harrison”})

(x:Person)-[:HAS\_AGE {dateStart: 2001, type: “exact”}]->(b:Age {start: 50, end: 59, type: “approx”})

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[:HAS\_ALIAS] {certain: 0|1, dateStart: \*, dateEnd: \*, type: \*} **:Alias**

optional; 0 or more

*For an alias that is used in place of an* ***entire*** *name (both forename & family name), eg. Pelé*

*Or for an* epithet *that is used in addition to an entire name, eg. jun., the elder, II*

*For alternative individual forenames or family names, see* **:ForeName** *and* **:FamilyName**

*Use* certain *to indicate confidence in the assertion. True (1) by default.*

*Use date range where applicable, eg. where an alias is only used for a specific time.*

*Use type to indicate:* acronym|alternative|epithet|nickname|pseudonym

**Example:** *“Richard Starkey, aka Ringo Starr”*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “Starkey”})

(x:Person)-[:HAS\_FORENAME {order: 1}]->(b:ForeName {name: “Richard”})

(x:Person)-[:HAS\_ALIAS {type: “pseudonym”}]->(c:Alias {name: “Ringo Starr”})

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[:HAS\_AWARD] {campaign: \*, certain: 0|1, dateStart: \*, dateEnd: \*, place: \*} **:Award**

optional; 0 or more

*To indicate association with an earned qualification or honorary award.*

*Use* campaign *to record the military campaign in which an individual award was won.*

*Use* certain *to indicate confidence in the assertion. True (1) by default.*

*Use date range where applicable (or* dateStart *only where not precise)*

*Use* place *to record the location where an individual award was won.*

**Example:** *“Paul McCartney was made an MBE in 1965”*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “McCartney”})

(x:Person)-[:HAS\_FORENAME {order: 2}]->(b:ForeName {name: “Paul”})

(x:Person)-[:HAS\_AWARD {dateStart: 1965}]->(c:Award {name: “MBE”})

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[:HAS\_CHILD] {certain: 0|1, dateStart: \*, dateEnd: \*, order: 1, score: \*, type: \*} **:Person**

optional; 0 or more

*Use* certain *to indicate confidence in the assertion. True (1) by default. Qualify with* score *if necessary.*

*Use date range where applicable (or* dateStart *only where not precise)*

*Use precedence to indicate temporal order of multiple children where dates not known.*

*Use* score *to indicate a weighting for the relationship assertion.*

*Use type to indicate:* adopted|foster|natural|step

**Example:** *“After they married, Paul McCartney legally adopted Linda's daughter Heather”*

(a:FamilyName {name: “McCartney”})

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName)

(x:Person)-[:HAS\_FORENAME {order: 2}]->(b:ForeName {name: “Paul”})

(y:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName)

(y:Person)-[:HAS\_FORENAME {order: 1}]->(c:ForeName {name: “Linda”})

(z:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName)

(z:Person)-[:HAS\_FORENAME {order: 1}]->(d:ForeName {name: “Heather”})

(y:Person)-[:HAS\_CHILD {type: “natural”}]->(z:Person)

(x:Person)-[:HAS\_CHILD {type: “adopted”}]->(z:Person)

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[:HAS\_EVENT] {certain: 0|1} **:Event**

optional; 0 or more

*To indicate association with a notable life event, eg. birth, marriage, death, military service*

*Use* certain *to indicate confidence in the assertion. True (1) by default.*

**Example:** *“George Harrison was born in Liverpool, Lancashire, England, on 25 February 1943”*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “Harrison”})

(x:Person)-[:HAS\_FORENAME {order: 1}]->(b:ForeName {name: “George”})

(x:Person)-[:HAS\_EVENT]->(c:Event {type: “birth”})

(c:Event)-[:HAS\_PLACE]->(d:Place {name: “Liverpool”})

(d:Place)-[:IS\_WITHIN]->(e:Place {name: “Lancashire”})

(e:Place)-[:IS\_WITHIN]->(f:Place {name: “England”})

(c:Event)-[:HAS\_DATE]->(g:Day {value: 25})-[:HAS\_DATE]->(h:Month {value: 2})-[:HAS\_DATE]->(i:Year {value: 1943})

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[:HAS\_FAMILYNAME] {certain: 0|1, dateStart: \*, dateEnd: \*, order: 1, precedence: 1, preference: 1}

**:FamilyName**

optional; 1 or more

*Use* certain *to indicate confidence in the assertion. True (1) by default.*

*Use date range where applicable, eg. where a change in name follows marriage.*

*Use the mandatory order to indicate formal order of multiple names, eg. Spencer (1) / Churchill (2)*

*Use precedence to indicate chronological sequence of family names when there have been changes.*

*Use preference to indicate ‘known as’ name, eg. Churchill (1) / Spencer-Churchill (2)*

*Can also be an empty string where not known.*

**Example:** *“Lennon and McCartney”*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “Lennon”})

(y:Person)-[:HAS\_FAMILYNAME {order: 1}]->(b:FamilyName {name: “McCartney”})

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[:HAS\_FORENAME] {certain: 0|1, dateStart: \*, dateEnd: \*, order: 1, precedence: 1, preference: 1}

**:ForeName**

optional; 1 or more

*Use* certain *to indicate confidence in the assertion. True (1) by default.*

*Use date range where applicable, eg. where a change in name.*

*Use the mandatory order to indicate formal order of multiple forenames, eg. James (1) / Paul (2)*

*Use precedence to indicate chronological sequence of forenames when there have been changes.*

*Use preference to indicate ‘known as’ forename, eg. James (2) / Paul (1)*

*Can also simply be an initial, or an empty string where not known.*

**Example:** *“James Paul McCartney”*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “McCartney”})

(x:Person)-[:HAS\_FORENAME {order: 1, preference: 2}]->(b:ForeName {name: “James”})

(x:Person)-[:HAS\_FORENAME {order: 2, preference: 1}]->(c:ForeName {name: “Paul”})

If it is necessary to distinguish pairs of different family names and forenames for the same individual, create entirely separate **:Person** nodes for each separate name pair and link them using a [:SAME\_AS] assertion:

**Example:** *“In Japan, Sean Lennon is also known as Taro Ono”*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “Lennon”})

(x:Person)-[:HAS\_FORENAME {order: 1}]->(b:ForeName {name: “Sean”})

(y:Person)-[:HAS\_FAMILYNAME {order: 1}]->(c:FamilyName {name: “Ono”})

(y:Person)-[:HAS\_FORENAME {order: 1}]->(d:ForeName {name: “Taro”})

(x:Person)-[:SAME\_AS]->(y:Person)

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[:HAS\_NATIONALITY] {certain: 0|1, dateStart: \*, dateEnd: \*, order: 1} **:Nationality**

optional; 0 or more

*Use* certain *to indicate confidence in the assertion. True (1) by default.*

*Use date range where applicable, eg. in the case of a change of nationality*

*Use precedence to indicate temporal order of multiple nationalities where dates not known.*

**Example:** *“Ringo Starr is still British despite living predominantly in LA and Monte Carlo”*

(x:Person)-[:HAS\_ALIAS {type: “pseudonym”}]->(a:Alias {name: “Ringo Starr”})

(x:Person)-[:HAS\_PLACE {type: “home”}]->(b:Place {name: “LA”})

(x:Person)-[:HAS\_PLACE {type: “home”}]->(c:Place {name: “Monte Carlo”})

(x:Person)-[:HAS\_NATIONALITY]->(d:Nationality {ref: “GB”, name: “British”})

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[:HAS\_OCCUPATION] {certain: 0|1, dateStart: \*, dateEnd: \*, order: 1} **:Occupation**

optional; 0 or more

*To indicate association with a known career, trade, job or occupation.*

*Use* certain *to indicate confidence in the assertion. True (1) by default.*

*Use date range where applicable (or* dateStart *only where not precise).*

*Use precedence to indicate temporal order of multiple occupations where dates not known.*

**Example:** *“Ringo Starr has been a drummer since 1953”*

(x:Person)-[:HAS\_ALIAS {type: “pseudonym”}]->(a:Alias {name: “Ringo Starr”})

(x:Person)-[:HAS\_OCCUPATION {dateStart: 1953}]->(b:Occupation {name: “drummer”})

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[:HAS\_ORIGIN] {certain: 0|1, dateStart: \*, dateEnd: \*} **:Place**

optional; 0 or 1

*To indicate association with a place of birth or origin, eg. for migrants*

*Use* certain *to indicate confidence in the assertion. True (1) by default.*

*Use date range where applicable (or* dateStart *only where not precise)*

**Example:** *“Ringo Starr now lives in LA and Monte Carlo, a long way from his native Liverpool”*

(x:Person)-[:HAS\_ALIAS {type: “pseudonym”}]->(a:Alias {name: “Ringo Starr”})

(x:Person)-[:HAS\_PLACE {type: “home”}]->(b:Place {name: “LA”})

(x:Person)-[:HAS\_PLACE {type: “home”}]->(c:Place {name: “Monte Carlo”})

(x:Person)-[:HAS\_ORIGIN]->(d:Place {name: “Liverpool”})

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[:HAS\_PARENT] {certain: 0|1, dateStart: \*, dateEnd: \*, order: 1, score: \*, type: \*} **:Person**

optional; 0 or more

*Use* certain *to indicate confidence in the assertion. True (1) by default. Qualify with* score *if necessary.*

*Use date range where applicable, eg. in the case of step-parents*

*Use precedence to indicate temporal order of multiple parents (eg. step-parents) where dates not known*

*Use* score *to indicate a weighting for the relationship assertion.*

*Use type to indicate:* adoptive|foster|natural|step

**Example:** *“Harrison was the youngest child of Harold Harrison and his wife Louise (née French)”*

(a:FamilyName {name: “Harrison”})

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName)

(y:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName)

(y:Person)-[:HAS\_FORENAME {order: 1}]->(b:ForeName {name: “Harold”})

(z:Person {type: “female”})

(z:Person)-[:HAS\_FAMILYNAME {order: 1, precedence: 1}]->(c:FamilyName {name: “French”})

(z:Person)-[:HAS\_FAMILYNAME {order: 1, precedence: 2}]->(a:FamilyName)

(z:Person)-[:HAS\_FORENAME {order: 1}]->(d:ForeName {name: “Louise”})

(y:Person)-[:HAS\_SPOUSE]->(z:Person)

(x:Person)-[:HAS\_PARENT]->(y:Person)

(x:Person)-[:HAS\_PARENT]->(z:Person)

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[:HAS\_PLACE] {certain: 0|1, dateStart: \*, dateEnd: \*, type: \*} **:Place**

optional; 0 or more

*To indicate association with a place (which may in turn be associated with another place)*

*Use* certain *to indicate confidence in the assertion. True (1) by default.*

*Use date range where applicable (or* dateStart *only where not precise)*

*Use type to indicate the nature of the relationship to the place where known,*

*eg.* home|posting|recreation|school|training|university|work

**Example:** *“Paul McCartney lived at 57 Wimpole Street from 1963-1966”*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “McCartney”})

(x:Person)-[:HAS\_FORENAME {order: 2}]->(b:ForeName {name: “Paul”})

(c:Place {name: “57 Wimpole Street”, type: “dwelling”})

(x:Person)-[:HAS\_PLACE {dateStart: 1963, dateEnd: 1966, type: “home”}]->(c:Place)

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[:HAS\_REFERENCE] {certain: 0|1, dateStart: \*, dateEnd: \*} **:Reference**

optional; 0 or more

*To indicate association with a given number, reference or code, eg. a service number*

*Use* certain *to indicate confidence in the assertion. True (1) by default.*

*Use date range where applicable (or* dateStart *only where not precise)*

**Example:** *“In 1971, Lennon’s home phone no. at Tittenhurst Park was Ascot 23022”*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “Lennon”})

(x:Person)-[:HAS\_REFERENCE {certain: 1, dateStart: 1971}]->(b:Reference {genre: “personal”, name: “Ascot 23022”, type: “telephone”})

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[:HAS\_RELATION] {certain: 0|1, dateStart: \*, dateEnd: \*, name: \*, score: \*, type: \*} **:Person**

optional; 0 or more

*To indicate non-immediate family relations. Especially useful where intermediate relations (person or persons) are not known - but can still be used in addition to those.*

*Use* certain *to indicate confidence in the assertion. True (1) by default. Qualify with* score *if necessary.*

*Use date range where applicable, eg. in the case of foster grandparents*

*Use name to indicate the relationship, using the following standard notation:*

*grand (no space or hyphen), eg.* grandchild|granddaughter|grandfather|grandparent

*great (with hyphen), eg.* great-aunt|great-grandchild|great-granddaughter|great-grandparent

*Other typical names:* aunt|cousin|neice|nephew|uncle

*Use* score *to indicate a weighting for the relationship assertion.*

*Use type to indicate:* adopted|adoptive|foster|half|natural|removed|step

**Example:** *“Lennon was raised by his aunt and uncle, Mimi and George Smith”*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “Lennon”})

(b:FamilyName {name: “Smith”})

(y:Person)-[:HAS\_FAMILYNAME {order: 1}]->(b:FamilyName)

(y:Person)-[:HAS\_FORENAME {order: 1}]->(c:ForeName {name: “Mimi”})

(z:Person)-[:HAS\_FAMILYNAME {order: 1}]->(b:FamilyName)

(z:Person)-[:HAS\_FORENAME {order: 1}]->(d:ForeName {name: “George”})

(x:Person)-[:HAS\_RELATION {name: “aunt”}]->(y:Person)

(x:Person)-[:HAS\_RELATION {name: “uncle”}]->(z:Person)

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[:HAS\_ROLE] {certain: 0|1, dateStart: \*, dateEnd: \*, name: \*, order: 1}

**:Event**|**:Organisation**|**:Person**

optional; 0 or more

*To indicate employment or some other form of involvement (eg. assistant, benefactor, employer, friend, member, mentor, owner, partner, player, protégé, sponsor, supporter, volunteer) with an organisation or with a person or persons. Useful to distinguish between periods spent with the same organisation under different roles or in different capacities, eg. ranks in the army.*

*Use* certain *to indicate confidence in the assertion. True (1) by default.*

*Use date range where applicable (or* dateStart *only where not precise).*

*Use* name *to capture the nature of the involvement by job title or other descriptor, if known*

*Use precedence to indicate temporal order of multiple roles where dates not known.*

**Example:** *“Brian Epstein was an integral part of The Beatles between 1961 and 1967”*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “Epstein”})

(x:Person)-[:HAS\_FORENAME {order: 1}]->(b:ForeName {name: “Brian”})

(y:Organisation {name: “The Beatles”, genre: “music”, type: “group”})

(x:Person)-[:HAS\_ROLE {dateStart: 1961, dateEnd: 1967}]->(y:Organisation)

**Example:** *“Maharishi Mahesh Yogi was guru to The Beatles”*

(x:Person)-[:HAS\_TITLE]->(a:Title {name: “Maharishi”})

(x:Person)-[:HAS\_FORENAME {order: 1}]->(b:ForeName {name: “Mahesh”})

(x:Person)-[:HAS\_TITLE]->(c:Title {name: “Yogi”})

(y:Organisation {name: “The Beatles”, genre: “music”, type: “group”})

(x:Person)-[:HAS\_ROLE {name: “guru”}]->(y:Organisation)

**Example: “***May Pang became personal assistant to Lennon and Ono in 1970”*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “Pang“})

(x:Person)-[:HAS\_FORENAME {order: 1}]->(b:ForeName {name: “May“})

(y:Person)-[:HAS\_FAMILYNAME {order: 1}]->(c:FamilyName {name: “Lennon“})

(z:Person)-[:HAS\_FAMILYNAME {order: 1}]->(d:FamilyName {name: “Ono“})

(x:Person)-[:HAS\_ROLE {dateStart: 1970, name: “personal assistant”})->(y:Person)

(x:Person)-[:HAS\_ROLE {dateStart: 1970, name: “personal assistant”})->(z:Person)

**Example:** *“Ed Sullivan introduced The Beatles on stage when they played Shea Stadium in 1965”*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “Sullivan”})

(x:Person)-[:HAS\_FORENAME {order: 1}]->(b:ForeName {name: “Ed”})

(y:Organisation {name: “The Beatles”, genre: “music”, type: “group”})

(c:Event {genre: “music”, type: “concert”})

(c:Event)-[:HAS\_ORGANISATION]->(y:Organisation)

(c:Event)-[:HAS\_PLACE]->(d:Place {name: “Shea Stadium”})

(c:Event)-[:HAS\_DATE]->(e:Year {value: 1965})

(x:Person)-[:HAS\_ROLE {name: “introducer”}]->(c:Event)

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[:HAS\_SIBLING] {certain: 0|1, dateStart: \*, dateEnd: \*, order: -1, score: \*, type: \*}

**:Person**

optional; 0 or more

*Use* certain *to indicate confidence in the assertion. True (1) by default. Qualify with* score *if necessary.*

*Use date range where applicable (or* dateStart *only where not precise)*

*Use precedence to indicate relative order of siblings where -1 etc. is younger and +1 etc. is older*

*Use* score *to indicate a weighting for the relationship assertion.*

*Use type to indicate:* adopted|half|natural|step

**Example:** *“Harrison had one sister, Louise, and two brothers, Harry and Peter”*

(a:FamilyName {name: “Harrison”})

(w:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName)

(x:Person {type: “female”})

(x:Person)-[:HAS\_FAMILYNAME {order: 1, precedence: 1}]->(a:FamilyName)

(x:Person)-[:HAS\_FORENAME {order: 1}]->(b:ForeName {name: “Louise”})

(y:Person {type: “male”})

(y:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName)

(y:Person)-[:HAS\_FORENAME {order: 1}]->(c:ForeName {name: “Harry”})

(z:Person {type: “male”})

(z:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName)

(z:Person)-[:HAS\_FORENAME {order: 1}]->(d:ForeName {name: “Peter”})

(w:Person)-[:HAS\_SIBLING]->(x:Person)

(w:Person)-[:HAS\_SIBLING]->(y:Person)

(w:Person)-[:HAS\_SIBLING]->(z:Person)

(x:Person)-[:HAS\_SIBLING]->(y:Person)

(x:Person)-[:HAS\_SIBLING]->(z:Person)

(y:Person)-[:HAS\_SIBLING]->(z:Person)

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[:HAS\_SPOUSE] {certain: 0|1, dateStart: \*, dateEnd: \*, order: 1, score: \*, type: \*} **:Person**

optional; 0 or more

*Use* certain *to indicate confidence in the assertion. True (1) by default. Qualify with* score *if necessary.*

*Use date range where applicable (or* dateStart *only where not precise)*

*Use precedence to indicate temporal order of multiple spouses where dates not known.*

*Use* score *to indicate a weighting for the relationship assertion.*

*Use type to indicate:* civil|marriage|partner

**Example:** *“George Harrison married Pattie Boyd on 21 Jan 1966 and Olivia Arias on 2 Sep 1978”*

(x:Person)-[:HAS\_FORENAME {order: 1}]->(a:ForeName {name: “George”})

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(b:FamilyName {name: “Harrison”})

(y:Person)-[:HAS\_FORENAME {order: 1}]->(c:ForeName {name: “Pattie”})

(y:Person)-[:HAS\_FAMILYNAME {order: 1, precedence: 1}]->(d:FamilyName {name: “Boyd”})

(z:Person)-[:HAS\_FORENAME {order: 1}]->(e:ForeName {name: “Olivia”})

(z:Person)-[:HAS\_FAMILYNAME {order: 1, precedence: 1}]->(f:FamilyName {name: “Arias”})

(x:Person)-[:HAS\_SPOUSE {dateStart: 19660121, precedence: 1, type: “marriage”}]->(y:Person)

(x:Person)-[:HAS\_SPOUSE {dateStart: 19780902, precedence: 2, type: “marriage”}]->(z:Person)

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[:HAS\_TITLE] {certain: 0|1, dateStart: \*, dateEnd: \*, order: 1} **:Title**

optional; 0 or more

*To indicate association with a customary or honorary title.*

*May well be used in conjunction with a complementary* [:HAS\_ROLE {name=\*}] *assertion.*

*Use* certain *to indicate confidence in the assertion. True (1) by default.*

*Use date range where applicable (or* dateStart *only where not precise).*

*Use precedence to indicate temporal order of multiple titles where dates not known.*

**Example:** *“Sir Paul McCartney”*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “McCartney”})

(x:Person)-[:HAS\_FORENAME {order: 2}]->(b:ForeName {name: “Paul”})

(x:Person)-[:HAS\_TITLE]->(c:Title {name: “Sir”})

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[:IN\_CONTAINER] **:Context**|**:Document**

mandatory; 1

*To indicate the source text or document (or metadata) in which the person appears.*

**Example:** *“McCartney, James Paul v Lennon, John Winston Ono, Apple Corps Ltd and Maclen Music Ltd”* [TNA Catalogue, ref. J 84/649. <http://discovery.nationalarchives.gov.uk/details/r/C3332871>]

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “McCartney”})

(x:Person)-[:HAS\_FORENAME {order: 1, preference: 2}]->(b:ForeName {name: “James”})

(x:Person)-[:HAS\_FORENAME {order: 2, preference: 1}]->(c:ForeName {name: “Paul”})

(y:Person)-[:HAS\_FAMILYNAME {order: 1}]->(d:FamilyName {name: “Lennon”})

(y:Person)-[:HAS\_FORENAME {order: 1}]->(e:ForeName {name: “John”})

(y:Person)-[:HAS\_FORENAME {order: 2}]->(f:ForeName {name: “Winston”})

(y:Person)-[:HAS\_FORENAME {order: 3}]->(g:ForeName {name: “Ono”})

(h:Organisation {name: “Apple Corps Ltd”, genre: “music”, type: “company”})

(i:Organisation {name: “Maclen Music Ltd”, genre: “music”, type: “company”})

(j:Context {name: “McCartney, James Paul v Lennon, John Winston Ono, Apple Corps Ltd and Maclen Music Ltd”)

(x:Person)-[:IN\_CONTAINER]->(j:Context)

(y:Person)-[:IN\_CONTAINER]->(j:Context)

(h:Organisation)-[:IN\_CONTAINER]->(j:Context)

(i:Organisation)-[:IN\_CONTAINER]->(j:Context)

(k:Document {name: “J 84/649”, quality: “high”, ref: “C3332871”, type: “entry”, url: “http://discovery.nationalarchives.gov.uk/details/r/C3332871”})

(k:Document)-[:HAS\_START\_DATE]->(l:Year {value: 1971})

(k:Document)-[:HAS\_END\_DATE]->(m:Year {value: 1982})

(j:Context)-[:IN\_CONTAINER]->(k:Document)

(n:Source {name: “Discovery”, quality: “high”, type: “catalogue”, url: “http://discovery.nationalarchives.gov.uk”})

(k:Document)-[:IN\_CONTAINER]->(n:Source)

(o:Organisation {name: “The National Archives”, genre: “government”, type: “repository”})

(o:Organisation)-[:HAS\_ALIAS {type: “acronym”}]->(p:Organisation {name: “TNA”})

(n:Source)-[:HELD\_BY]->(o:Organisation)

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[:IS\_ALIVE] {certain: 0|1} **:Year**|**:Month**|**:Day**

optional; 0 or more

*Where DOB or DOD is not known but a ‘floruit’ date can be inferred from the data.*

*Use* certain *to indicate confidence in the assertion. True (1) by default.*

**Example:** *“Lennon wrote ‘Imagine’ in 1971”*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “Lennon”})

(x:Person)-[:IS\_ALIVE {certain: 1}]->(b:Year {value: 1971})

*Use date range if applicable, as follows:*

[:IS\_END\_ALIVE] {certain: 0|1} **:Year**|**:Month**|**:Day**

optional; 0 or 1

[:IS\_START\_ALIVE] {certain: 0|1} **:Year**|**:Month**|**:Day**

optional; 0 or 1

**Example:** *“At school in the 1950s, McCartney was particularly praised for his art work”*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “McCartney”})

(x:Person)-[:IS\_START\_ALIVE {certain: 0}]->(b:Year {value: 1950})

(x:Person)-[:IS\_END\_ALIVE {certain: 0}]->(b:Year {value: 1959})

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[:IS\_DEAD] {certain: 0|1} **:Year**|**:Month**|**:Day**

optional; 0 or more

*Where DOD is not known but deceased status can be inferred from the document.*

*Use* certain *to indicate confidence in the assertion. True (1) by default.*

**Example:** *“Lennon was posthumously inducted into the Rock and Roll Hall of Fame in 1994”*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “Lennon”})

(x:Person)-[:IS\_DEAD]->(b:Year {value: 1994})

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[:SAME\_AS] {genre: \*, id: \*, score: \*, timestamp: 2014-11-11T00:00:00, type: \*} **:Person**

optional; 0 or more

*To indicate the probability that two* ***:Person*** *nodes might be the same individual.*

*Use genre to indicate how/where the assertion was derived:* algorithmic|documented

*Use id to attach the assertion to a batch or result set stored in an auditing database, eg. MongoDB*

*The mandatory* score *property indicates the weighting for an individual assertion.*

*The mandatory* timestamp *property is to show when the assertion was made.*

*Use type to indicate the algorithmic methods employed (use multiple hyphenated if necessary) eg.*

S = Soundex, M = Metaphone, DM = Double Metaphone, NYSIIS,

J = Jaccard, JW = Jaro-Winkler, DL = Damerau-Levenstein

**Example:** *“The J. P. McCartney in question was none other than Paul McCartney”*

(a:FamilyName {name: “McCartney”})

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName)

(x:Person)-[:HAS\_FORENAME {order: 1}]->(b:ForeName {name: “J”})

(x:Person)-[:HAS\_FORENAME {order: 2}]->(c:ForeName {name: “P”})

(y:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName)

(y:Person)-[:HAS\_FORENAME {order: 2}]->(d:ForeName {name: “Paul”})

(x:Person)-[:SAME\_AS {timestamp: 2014-11-11T00:00:00, score: 1.0, type: “documented”}]->(y:Person)

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**:Age**

**start** {int} mandatory *(44)*

**end** {int} optional *(46)*

**name** {string} optional *(mid-forties)*

**type** {list} optional approx|exact

*Use age range (***start** *and* **end***) where applicable (otherwise* **start** *only)*

*Use* **name** *to record the original textual description of age*

*Use* **type** *to record whether the age is exact or approximate*

**Example:** *“Harrison was only 14 when he first auditioned for The Quarrymen in March 1958”*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “Harrison”})

(x:Person)-[:HAS\_AGE {dateStart: 195803}]->(b:Age {start: 14})

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**:Alias**

**name** {string} mandatory *(Longshanks, Jack the Ripper, Mata Hari, Pelé)*

**Example:** *“Paul McCartney is affectionately known to fans as Macca”*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “McCartney”})

(x:Person)-[:HAS\_FORENAME {order: 2}]->(b:ForeName {name: “Paul”})

(x:Person)-[:HAS\_ALIAS {type: “nickname”}]->(c:Alias {name: “Macca”})

[:HAS\_PARTICLE] {type: “descriptive|nobiliary|prepositional”} **:Particle**

optional; 0 or 1

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**:Award**

**name** {string} mandatory *(BA, MSc, KB, VC, Victoria Cross)*

[:HAS\_ALIAS] {type: “acronym|abbreviation|alternative|full|nickname”} **:Award**

optional; 0 or more

*Use type where applicable with a suitable value*

**Example:** *“Paul McCartney, MBE (Member of the Most Excellent Order of the British Empire)”*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “McCartney”})

(x:Person)-[:HAS\_FORENAME {order: 2}]->(b:ForeName {name: “Paul”})

(x:Person)-[:HAS\_AWARD]->(c:Award {name: “MBE”})

(c:Award)-[:HAS\_ALIAS {type: “full”}]-(d:Award {name: “Member of the Most Excellent Order of the British Empire”})

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**:Context**

**name** {string} mandatory

*Use* **name** *to capture the immediate context (eg. sentence, cell or simply 50 chars either side) in which a person is found.*

[:IN\_CONTAINER] **:Document**

optional; 0 or 1

[:HAS\_DATE] {type: “approx|exact”} **:Year**|**:Month**|**:Day**|**:Time**

optional; 0 or 1

*Where possible this should be the date of the entry or event described in the immediate context (eg. sentence or cell) in preference to the date of the wider container* ***:*Document**

[:HAS\_END\_DATE] {type: “approx|exact”} **:Year**|**:Month**|**:Day**|**:Time**

optional; 0 or 1

[:HAS\_START\_DATE] {type: “approx|exact”} **:Year**|**:Month**|**:Day**|**:Time**

optional; 0 or 1

**Example:** *“In 2002, the airport in Lennon's home town was renamed Liverpool John Lennon Airport”*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “Lennon”})

(x:Person)-[:IN\_CONTAINER]->(b:Context {name: “In 2002, the airport in Lennon's home town was renamed Liverpool John Lennon Airport”)

(b:Context)-[:HAS\_DATE]->(c:Year {value: 2002})

(b:Context)-[:IN\_CONTAINER]->(d:Document {url: “http://en.wikipedia.org/wiki/John\_Lennon#Legacy”})

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**:Day**

**value** {int} mandatory *(16)*

**name** {string} optional *(16th)*

*Use* **name** *to record the original textual date description, if desired*

**Example: “***Brian Epstein dismissed Pete Best from The Beatles on 16 August 1962”*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “Epstein”})

(x:Person)-[:HAS\_FORENAME {order: 1}]->(b:ForeName {name: “Brian”})

(y:Person)-[:HAS\_FAMILYNAME {order: 1}]->(c:FamilyName {name: “Best”})

(y:Person)-[:HAS\_FORENAME {order: 1}]->(d:ForeName {name: “Pete”})

(z:Organisation {name: “The Beatles”, genre: “music”, type: “group”})

(e:Event {genre: “occupation”, type: “dismissal”})

(e:Event)-[:HAS\_DATE]->(f:Day {value: 16})-[:HAS\_DATE]->(g:Month {value: 8})-[:HAS\_DATE]->(h:Year {value: 1962})

(e:Event)-[:HAS\_ORGANISATION]->(z:Organisation)

(y:Person)-[:HAS\_EVENT]->(e:Event)

(y:Person)-[:HAS\_ROLE {dateEnd: 19620816}]->(z:Organisation)

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**:Document**

**filepath** {string} optional *(c:\files\example.txt)*

**name**  {string} optional *(PROB 11/1/1)*

**quality** {list} optional high|low|medium

**ref** {string} optional *(D967088)*

**type** {list} optional entry|page|paragraph|row|spreadsheet|webpage

**url** {string} optional *(discovery.nationalarchives.gov.uk/details/r/D967088)*

*Use to refer to either the parent data structure in which a person is found (eg. webpage or spreadsheet) or a smaller, discrete unit within such a data structure (eg. paragraph or row).*

*For an even smaller unit of contextual description (eg. sentence or cell) see* **:Context**

*For a much wider container of context (eg. website or folder) see* **:Source**

*Use* **name** *to record an original reference no.*

*Use* **quality** *to record an indication of the quality and/or reliability of the source data*

*Use* **ref** *to record an original machine-readable or system identifier*

*Use* **type** *to record the format of the container data structure*

*Use* **url** *for a containing webpage (or sub-section thereof if identified by a ‘#’ fragment identifier)*

[:IN\_CONTAINER] **:Document**|**:Source**

optional; 0 or 1

[:HELD\_BY] **:Organisation**

optional; 0 or 1

*Use to record the repository or institution which now curates the original document or dataset*

[:HAS\_DATE] {type: “approx|exact”} **:Year**|**:Month**|**:Day**|**:Time**

optional; 0 or 1

*Where possible this should be the date of the entry or event described in the immediate container* ***:*Document** *(eg. paragraph or row) in preference to the date of the wider container* ***:*Document** *(eg. webpage or spreadsheet). Otherwise, only date the wider container* ***:*Document**

[:HAS\_END\_DATE] {type: “approx|exact”} **:Year**|**:Month**|**:Day**|**:Time**

optional; 0 or 1

[:HAS\_START\_DATE] {type: “approx|exact”} **:Year**|**:Month**|**:Day**|**:Time**

optional; 0 or 1

**Example:** *“Lennon continues to be mourned throughout the world and has been the subject of numerous memorials and tributes.” [Wikipedia, page last modified on 26 October 2014 at 07:14]*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “Lennon”})

(x:Person)-[:IN\_CONTAINER]->(b:Context {name: “Lennon continues to be mourned throughout the world and has been the subject of numerous memorials and tributes.”)

(b:Context)-[:IN\_CONTAINER]->(c:Document {type: “paragraph”, url: “http://en.wikipedia.org/wiki/John\_Lennon#Legacy”})

(c:Document)-[:IN\_CONTAINER]->(d:Document {type: “webpage”, url: “http://en.wikipedia.org/wiki/John\_Lennon”})

(d:Document)-[:HAS\_DATE]->(e:Day {value: 26})-[:HAS\_DATE]->(f:Month {value: 10})-[:HAS\_DATE]->(g:Year {value: 2014})

(d:Document)-[:HAS\_DATE]->(h:Time {timestamp: “2014-10-26T07:14:00”})

(d:Document)-[:IN\_CONTAINER]->(i:Source {type: “website”, url: “http://en.wikipedia.org/wiki”})

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**:Event**

**genre** {list} optional education|military|music|occupation|personal|sport|recreation

**type** {list} mandatory

baptism|birth|christening|conviction|death|discharge|dismissal|divorce|

enrolment|graduation|marriage|resignation|retirement|separation|service

*The record of a notable personal life event (eg. birth, marriage, death, military service) or other notable organisational or world event (eg. attack, ceremony, closure, declaration, fire, opening, transportation)*

[:HAS\_DATE] {type: “approx|exact”} **:Year**|**:Month**|**:Day**|**:Time**

optional; 0 or 1

[:HAS\_END\_DATE] {type: “approx|exact”} **:Year**|**:Month**|**:Day**|**:Time**

optional; 0 or 1

[:HAS\_START\_DATE] {type: “approx|exact”} **:Year**|**:Month**|**:Day**|**:Time**

optional; 0 or 1

[:HAS\_ORGANISATION] {dateStart: \*, dateEnd: \*, order: 1} **:Organisation**

optional; 0 or more

*To indicate association with an organisation (eg. company) or other body (eg. team).*

*Use date range where applicable (or* dateStart *only where not precise).*

*Use precedence to indicate temporal order of multiple organisations where dates not known.*

[:HAS\_PLACE] {dateStart: \*, dateEnd: \*, order: 1} **:Place**

optional; 0 or more

*To indicate location(s) associated with the event.*

*Use date range where applicable (or* dateStart *only where not precise).*

*Use precedence to indicate temporal order of multiple locations where dates not known.*

**Example:** *“George Harrison was born in Liverpool, Lancashire, England, on 25 February 1943”*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “Harrison”})

(x:Person)-[:HAS\_FORENAME {order: 1}]->(b:ForeName {name: “George”})

(x:Person)-[:HAS\_EVENT]->(c:Event {type: “birth”})

(c:Event)-[:HAS\_PLACE]->(d:Place {name: “Liverpool”})

(d:Place)-[:IS\_WITHIN]->(e:Place {name: “Lancashire”})

(e:Place)-[:IS\_WITHIN]->(f:Place {name: “England”})

(c:Event)-[:HAS\_DATE]->(g:Day {value: 25})-[:HAS\_DATE]->(h:Month {value: 2})-[:HAS\_DATE]->(i:Year {value: 1943})

**Example:** *“The Beatles last ever live concert was on the roof of Apple HQ on 30 January 1969”*

(y:Organisation {name: “The Beatles”, genre: “music”, type: “group”})

(z:Organisation {name: “Apple”, genre: “music”, type: “company”})

(a:Event {genre: “music”, type: “concert”})

(a:Event)-[:HAS\_ORGANISATION]->(y:Organisation)

(a:Event)-[:HAS\_PLACE]->(b:Place {name: “Apple HQ”})

(a:Event)-[:HAS\_DATE]->(c:Day {value: 30})-[:HAS\_DATE]->(d:Month {value: 1})-[:HAS\_DATE]->(e:Year {value: 1969})

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**:FamilyName**

**name** {string}mandatory  *(Johnson, Jonson, Jonners)*

**type** {list} optional abbreviation|full|initial|nickname|pseudonym

[:HAS\_ALIAS] {type:

“abbreviation|alternative|full|initial|nickname|pseudonym|variant”} **:FamilyName**

optional; 0 or more

*For an alternative form of* ***:FamilyName*** *only*

*For entire forename & family name substitution, see main* ***:Person*** *entry.*

*Use type where applicable with a suitable value, eg.*

*-* abbreviation *for shortened forms (eg. Mack. for Mackintosh)*

*-* alternative *for local (intra-document) spelling variations*

*-* full *for full form (eg. Spencer-Churchill) of a shortened name (Churchill)*

*-* initial *for initial letter only (eg. H for Hillyard)*

*-* nickname *for a nickname (eg. Smitty for Smith; Aggers for Agnew)*

*-* pseudonym *for an adopted name (eg. Bowie for Jones, Loren for Scicolone)*

*-* variant *for a recognised variant (eg. derived from FaNUK)*

[:HAS\_PARTICLE] {type: “descriptive|nobiliary|prepositional”} **:Particle**

optional; 0 or 1

**Example:** *“John Lennon sometimes jokingly referred to himself as John Lemon”*

(x:Person)-[:HAS\_FORENAME {order: 1}]->(a:ForeName {name: “John”})

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(b:FamilyName {name: “Lennon”})

(x:Person)-[:HAS\_FAMILYNAME {type: “nickname”}]->(c:FamilyName {name: “Lemon”})

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**:ForeName**

**name** {string} mandatory  *(William, Willie, Willy, Will, Wm, W, Bill, Billy)*

**type** {list} optional abbreviation|diminutive|full|initial|nickname|pseudonym

[:HAS\_ALIAS] {preference: 0, type: “abbreviation|alternative|diminutive|full|initial|nickname|pseudonym|variant”} **:ForeName**

optional; 0 or more

*For an alternative form of* ***:ForeName*** *only*

*For entire forename & family name substitution, see main* ***:Person*** *entry.*

*Use preference to indicate where an alias is also the ‘known as’ forename (0 by default)*

*Use type where applicable with a suitable value, eg.*

*-* abbreviation *for shortened forms (eg. Wm for William)*

*-* alternative *for local (intra-document) spelling variations*

*-* diminutive *for familiar forms (eg. Jim for James; Polly for Mary; Rick for Richard)*

*-* full *for full form of shortened names (eg. Robert for Rob)*

*-* initial *for initial letter only (eg. M for Matthew)*

*-* nickname *for a nickname (eg. Buster, Spike, Trigger)*

*-* pseudonym *for an adopted name (eg. Sigourney for Susan)*

*-* variant *for a recognised variant (eg. Mathew for Matthew)*

**Example:** *“John Winston Lennon added Ono as a middle name by deed poll on 22 April 1969”*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “Lennon”})

(x:Person)-[:HAS\_FORENAME {order: 1}]->(b:ForeName {name: “John”})

(x:Person)-[:HAS\_FORENAME {order: 2}]->(c:ForeName {name: “Winston”})

(x:Person)-[:HAS\_FORENAME {order: 3, dateStart: 19690422}]->(d:ForeName {name: “Ono”})

**Example:** *“Some sources give Harold as George Harrison's middle name; others dispute this”*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “Harrison”})

(x:Person)-[:HAS\_FORENAME {certain: 1, order: 1}]->(b:ForeName {name: “George”})

(x:Person)-[:HAS\_FORENAME {certain: 0, order: 2}]->(c:ForeName {name: “Harold”})

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**:Month**

**value** {int} mandatory *(9)*

**name** {string} optional *(Sept.)*

*Use* **name** *to record the original textual date description, if desired.*

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**:Nationality**

**ref** {id} optional *(GB, IE, FR, DE)*

**name** {string} mandatory *(British, Irish, French, German)*

**Example:** *“Ringo Starr is still British despite living predominantly in LA and Monte Carlo”*

(x:Person)-[:HAS\_ALIAS {type: “pseudonym”}]->(a:Alias {name: “Ringo Starr”})

(x:Person)-[:HAS\_PLACE {type: “home”}]->(b:Place {name: “LA”})

(x:Person)-[:HAS\_PLACE {type: “home”}]->(c:Place {name: “Monte Carlo”})

(x:Person)-[:HAS\_NATIONALITY {order: 1}]->(d:Nationality {ref: “GB”, name: “British”})

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**:Occupation**

**name** {string} mandatory *(police, policeman, police constable, PC, bobby)*

**genre** {list} optional education|finance|industry|military|music|sport|recreation

[:HAS\_ALIAS] {type: “abbreviation|acronym|alternative|full|nickname|variant”} **:Occupation**

optional; 0 or more

*Use type where applicable with a suitable value, eg.*

*-* abbreviation *for shortened forms (eg. Head for Headteacher)*

*-* acronym *for an acronym (eg. WREN for Women's Royal Naval Service)*

*-* alternative *for local (intra-document) spelling variations*

*-* full *for full form of shortened forms (eg. police constable for PC)*

*-* nickname *for a nickname (eg. bobby for policeman, navvy for navigator)*

*-* variant *for a recognised variant (eg. police / policeman / police constable)*

[:HAS\_ORGANISATION] {dateStart: \*, dateEnd: \*, order: 1} **:Organisation**

optional; 0 or more

*To indicate association with an organisation (eg. company) or other body (eg. team).*

*Use date range where applicable (or* dateStart *only where not precise).*

*Use precedence to indicate temporal order of multiple organisations where dates not known.*

**Example:** *“The Beatles had two principal drummers between 1960 and 1970”*

(y:Organisation {name: “The Beatles”, genre: “music”, type: “group”})

(z:Occupation {genre: “music”, name: “drummer”})

(z:Occupation)-[:HAS\_ORGANISATION {dateStart: 1960, dateEnd: 1970}]->(y:Organisation)

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**:Organisation**

**ref** {id} optional *(66, 31)*

**name** {string} mandatory *(Co-operative Society, King’s Fusiliers, Leeds United AFC)*

**genre** {list} optional education|finance|industry|military|music|sport|recreation

**type** {list} optional bank|club|factory|group|regiment|school|team|university

[:HAS\_ALIAS] {type:

“abbreviation|acronym|alternative|full|nickname|variant”} **:Organisation**

optional; 0 or more

*Use type where applicable with a suitable value, eg.*

*-* abbreviation *for shortened forms (eg. Marks for Marks & Spencer)*

*-* acronym *for an acronym (eg. TNA for The National Archives)*

*-* alternative *for local (intra-document) spelling variations*

*-* full *for full form of shortened forms (eg. Leeds United Football Club for LUFC)*

*-* nickname *for a nickname (eg. Beeb for BBC)*

*-* variant *for a recognised variant (eg. fire brigade / fire service)*

**Example: “***The Beatles, aka The Fab Four”*

(y:Organisation {name: “The Beatles”, genre: “music”, type: “group”})

(y:Organisation)-[:HAS\_ALIAS {type: “nickname”}]->(z:Organisation {name: “The Fab Four”})

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**:Particle**

**name** {list} mandatory ap|d’|de|de la|del|della|di|du|of|the|van|von

*To capture nobiliary particles or other descriptive/prepositional information in family names and aliases*

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**:Place**

**name** {string} mandatory *(The Vicarage, King Street, Soho, London, Devon, England, SW1A)*

**type** {list} optional city|country|county|dwelling|location|region|street|town|village

[:HAS\_ALIAS] {type:

“abbreviation|acronym|alternative|full|nickname|postcode|variant”} **:Place**

optional; 0 or more

*Use type where applicable with a suitable value, eg.*

*-* abbreviation *for shortened forms (eg. Bury for Bury St Edmunds)*

*-* acronym *for an acronym (eg. UK for United Kingdom)*

*-* alternative *for local (intra-document) spelling variations*

*-* full *for full form of shortened forms (eg. Kingston upon Hull for Hull)*

*-* nickname *for a nickname (eg. Blighty for Britain)*

*-* postcode *for a postcode (eg. W13 for West Ealing)*

*-* variant *for a recognised variant (eg. Newcastle on Tyne / Newcastle upon Tyne)*

[:HAS\_PLACE] **:Place**

optional; 0 or more

*To indicate another place which is wholly or partially contained by this place.*

[:IS\_WITHIN] **:Place**

optional; 0 or more

*To indicate another place which wholly or partially contains this place.*

**Example:** *“Harrison lived for his first six years in Arnold Grove, Wavertree, Liverpool, L15 8HP”*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “Harrison“})

(x:Person)-[:HAS\_PLACE {type: “home”}]->(b:Place {name: “Arnold Grove”, type: “street”})

(b:Place)-[:HAS\_ALIAS {type: “postcode”}]->(c:Place {name: “L15 8HP”, type: “street”})

(b:Place)-[:IS\_WITHIN]->(d:Place {name: “Wavertree”, type: “location”})

(d:Place)-[:IS\_WITHIN]->(e:Place {name: “Liverpool”, type: “city”})

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**:Reference**

**name** {string} mandatory *(184691, E17498A, No.42)*

**genre** {list} optional airforce|army|military|navy|personal|police|prison

**type** {list} optional catalogue|certificate|discharge|enrolment|passport|service

**Example:** *“In 1971, Lennon’s home phone no. at Tittenhurst Park was Ascot 23022”*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “Lennon”})

(x:Person)-[:HAS\_PLACE {type: “home”}]->(b:Place {name: “Tittenhurst Park”})

(x:Person)-[:HAS\_REFERENCE {certain: 1, dateStart: 1971}]->(c:Reference {genre: “personal”, name: “Ascot 23022”, type: “telephone”})

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**:Source**

**name** {string} optional

**quality** {list} optional high|low|medium

**ref**  {string} optional

**type** {list} optional book|catalogue|dataset|folder|series|website

**url** {string} optional

*To capture information regarding the wider document container (eg. website or folder)*

*Use* **name** *to record an original reference no.*

*Use* **quality** *to record an indication of the quality and/or reliability of the source data*

*Use* **ref** *to record an original machine-readable or system identifier*

*Use* **type** *to record the format of the document container*

*Use* **url** *for a containing website*

[:HAS\_DATE] {type: “approx|exact”} **:Year**|**:Month**|**:Day**|**:Time**

optional; 0 or 1

[:HAS\_END\_DATE] {type: “approx|exact”} **:Year**|**:Month**|**:Day**|**:Time**

optional; 0 or 1

[:HAS\_START\_DATE] {type: “approx|exact”} **:Year**|**:Month**|**:Day**|**:Time**

optional; 0 or 1

[:HELD\_BY] **:Organisation**

optional; 0 or 1

*Use to record the repository or institution which curates the catalogue, dataset, website etc.*

**Example:** *“See John Lennon’s Wikipedia entry at http://en.wikipedia.org/wiki/John\_Lennon”*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “Lennon”})

(x:Person)-[:HAS\_FORENAME {order: 1}]->(b:ForeName {name: “John”})

(x:Person)-[:IN\_CONTAINER]->(c:Document {quality: “medium”, type: “webpage”, url: “http://en.wikipedia.org/wiki/John\_Lennon”})

(c:Document)-[:IN\_CONTAINER]->(d:Source {name: “Wikipedia”, quality: “medium”, type: “website”, url: “http://en.wikipedia.org/wiki”})

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**:Time**

**timestamp** {string} mandatory *(1918-11-11T11:00:00)*

**name** {string} optional *(11th hour of the 11th day of the 11th month, 1918)*

*Use* **name** *to record the original textual date description, if desired*

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**:Title**

**name** {string} mandatory *(Mr, Ms, Sir, The elder, the younger, Senior, Snr)*

*To record a customary or honorary title or an epithet.*

[:HAS\_ALIAS] {type: “acronym|abbreviation|alternative|full|nickname”} **:Title**

optional; 0 or more

*Use type where applicable with a suitable value*

**Example:** *“Richard Starkey, Jr.”*

(x:Person)-[:HAS\_FAMILYNAME {order: 1}]->(a:FamilyName {name: “Starkey”})

(x:Person)-[:HAS\_FORENAME {order: 1}]->(b:ForeName {name: “Richard”})

(x:Person)-[:HAS\_TITLE]->(c:Title {name: “Jr”})

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**:Year**

**value** {int} mandatory *(1578)*

**name** {string} optional *(20 Eliz. I)*

*Use* **name** *to record the original textual date description, eg. for* [*Regnal years*](http://en.wikipedia.org/wiki/Regnal_years_of_English_monarchs)