**Wolfgang Schmidle / Julian Helmchen**
**CIDOC CRM meeting Marseille**
**11.10.2023**

Freie Universität Berlin

VIENNA·PANNONIE

# Mapping Medieval Vienna

## The social topography of Vienna in the 15th century

Hintergrund: Holzschnitt mit der Ansicht Wiens aus der Schedelschen Weltchronik von 1493, Bildquelle: https://easydb.fu-berlin.de/detail/477855@0678eb41-c907-4f71-a4a1-b9ec119d9652

**Vienna around 1500**

source: H. Krause, P. Mitchell, C. Sonnlechner, The Urban Waterscape in Medieval Vienna, in: S. Zapke, E. Gruber (Hrsg.), A Companion to Medieval Vienna. Leiden/Boston: Brill, 2021, S. 222-264, S. 233 Abb. 9.2.
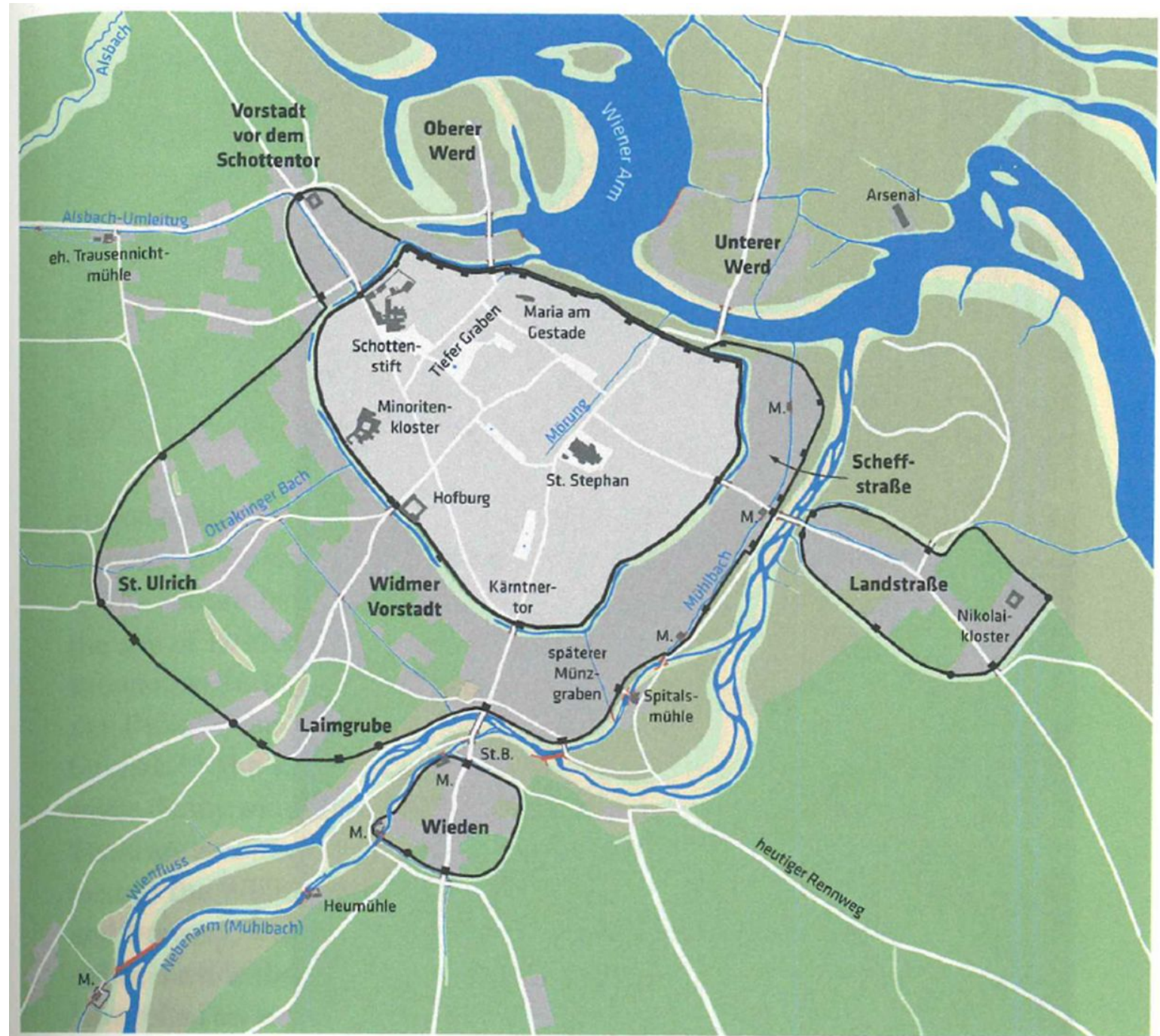
**Bestand der Wiener Grundbücher (des Mittelalters)**

| Signatur | Titel | | Zeitraum | |
|---|---|---|---|---|
| | | | | |
| 2.1.2.1.B1.5.1 | Satzbücher | Satzbuch A1 | 1373-1388 | 1373 - 1545 |
| 2.1.2.1.B1.32 | | Satzbuch A2 | 1388-1419 | |
| 2.1.2.1.B1.33 | | Satzbuch B | 1420-1437 | |
| 2.1.2.1.B1.34 | | Satzbuch C-D | 1438-1473 | |
| 2.1.2.1.B1.35 | | Satzbuch E | 1474-1523 | |
| 2.1.2.1.B1.36 | | Satzbuch F | 1523-1545 | |
| | | | | |
| 2.1.2.1.B1.3 | Kaufbücher | Kaufbuch A | 1368-1372 | 1368 – 1388; 1420 – 1437 |
| 2.1.2.1.B1.4 | | Kaufbuch C | 1373-1388 | |
| 2.1.2.1.B1.6a | | **Kaufbuch E** | **1420-1437** | |
| 2.1.2.1.B1.6b.1 | | **Kaufbuch E** | **1420-1437** | |
| | | | | |
| 2.1.2.1.B1.5.2 | Gewerbücher | Gewährbuch B | 1373-1419 | 1373 - 1534 |
| 2.1.2.1.B1.6b.2 | | Gewährbuch C | 1420-1437 | |
| 2.1.2.1.B1.7 | | **Gewährbuch D** | **1438-1473** | |
| 2.1.2.1.B1.8 | | **Gewährbuch E** | **1474-1517** | |
| 2.1.2.1.B1.9 | | Gewährbuch F | 1518-1534 | |
| | | | | |
| 2.1.2.1.B1.5.3 | Verbotbuch | Verbotbuch | 1373-1399 | 1373-1399 |

# Goals

data:
- eventually, capture every person and house in 15th century Vienna
- align data with other projects in Vienna
- verifiability of the data

historical research, e.g.
- Hussite wars
- Extinction of the Jews in Vienna 1420/21

in particular, social history:
- who lived where
- house owners and renters
- did houses stay in the same profession?
- strategies of securing income via housing deals

Transkribus Expert Client v1.20.1 (20_06_2022_09:54), Loaded doc: Gewerbuch D 1438-1473, ID: 811993, Page 692, file: WSTLA_Grundbuch_Stadt_Wien_B1_Grundbuch_7_Gewährbuch_D_0692.jpg [Image Meta Inf...

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Document | Page | Structural | **Textual** | Comments

**Tags of current Transcript**

| | Tag | Val... | Text | Properties |
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| 1 | textStyle | to | Ekenperger Anno etc. lv | fontSize: 0.0 kernin |
| 2 | date | Actur | geschriben stet Actum a | |
| 3 | textStyle | to | tag Anno etc. lvto habe | fontSize: 0.0 kernin |
| 4 | textStyle | habe | Anno etc. lvto habet ce | strikethrough: true |
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| 6 | textStyle | obtir | purkrecht folio 277 obt | strikethrough: true |
| 7 | textStyle | obtir | obtinet folio 277 obtine | strikethrough: true |
| 8 | textStyle | lxxvii | residerum folio cc lxxvii | strikethrough: true |
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**Tags**

☐ User tags  ☐ Collection tags  ☐ Tag specifications  ✎ Customize...

| Tag specification | Col... | Shortcut | |
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**Props for tag: no tag selected**

◄ Previous  ► Next  ✎ Apply to selected
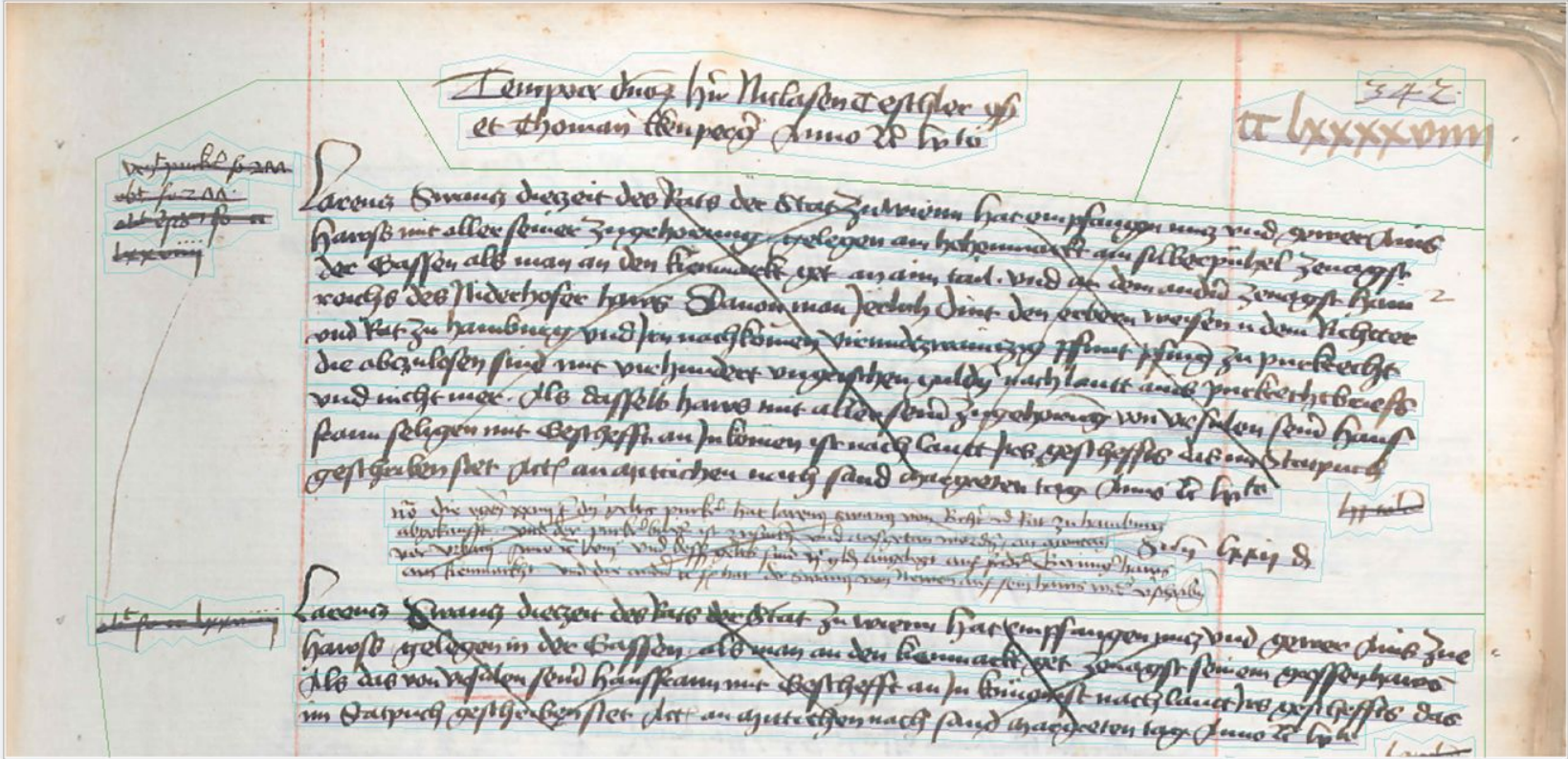
1-1 Tempore dominorum hern Niclasen Teschler consul

1-2 et Thoman Ekenperger Anno etc. lv$^{to}$

2-1 342

2-2 cc lxxxviiii

3-1 Larencz Swancz dieczeit des Rats der Stat zu Wienn hat empfangen nucz und gewer Ains

3-2 hawss mit aller seiner zugehorung gelegen am Hohenmarkt an silberpuhel zenagst

3-3 der Gassen als man an den Kienmarkt get an aim tail und an dem andern zenagst Has

B  I  x₂  x²  U  S  ...

# Choose a model

**Filter controls:** In Collection | text | All engines | All Languages

| Name | Language | Creator | Techno |
|------|----------|---------|--------|
| GB frühes Kurrent 3.0 | German | j.helmchen... | PyLaia |
| GB frühes Kurrent 2.0 | German | j.helmchen... | PyLaia |
| Modell für Grundbuc... | German, ... | j.helmchen... | PyLaia |
| GB frühes Kurrent | German | j.helmchen... | PyLaia |
| KB1 + KB2/GBC + GBD | German | j.helmchen... | PyLaia |
| Model Test Tagung | German, ... | juli25@live.... | CITlab |
| Model für GBD | German | juli25@live.... | CITlab |
| Model für GBD (mit T... | German | juli25@live.... | CITlab |
| Test_08_02_22 | Frühneuh... | N/A | CITlab |
| SB-CD Base + KB-E1 | Frühneuh... | N/A | CITlab |
| Satz/Kaufbuch Test | german | N/A | CITlab |
| Satzbuch+Kaufbuch ... | Frühneuh... | N/A | CITlab |
| Satzbuch+Kaufbuch ... | Frühneuh... | N/A | CITlab |
| Satzbuch+Kaufbuch ... | Frühneuh... | N/A | CITlab |
| Satzbuch+Kaufbuch ... | Frühneuh... | N/A | CITlab |
| Test 1 | German | N/A | CITlab |
| Satzbuch CD 2.0 | Frühneuh... | N/A | CITlab |

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## Details

**Name:** GB frühes Kurrent 3.0

**Language:** German

**Creator:** j.helmchen@fu-berlin.de

**Description:**

Train: 1000-1010, 1200-1450

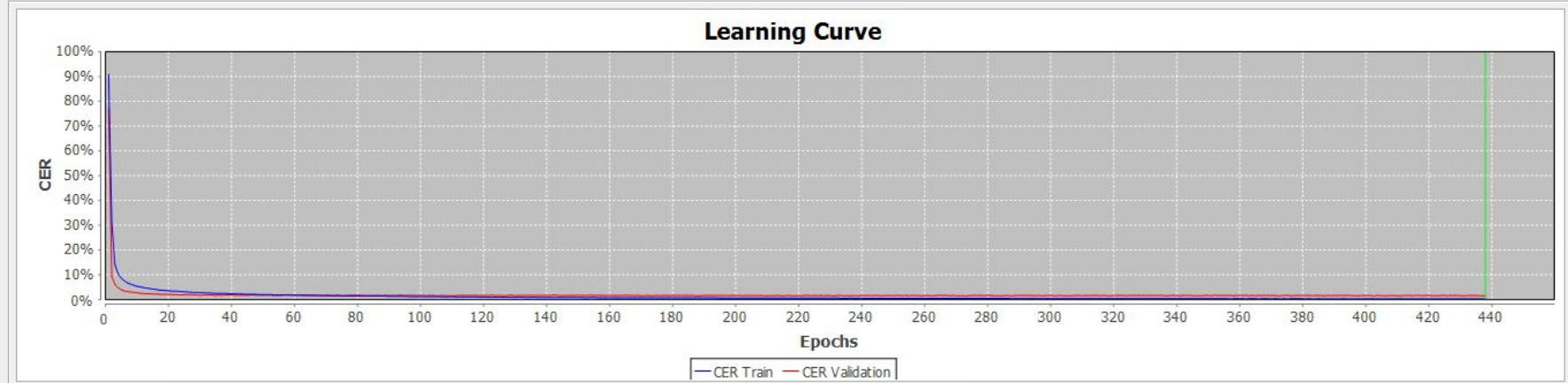davonVali: 1007, 1204, 1235, 1265, 1309, 1348, 1373, 1381, 1390, 1430

**Parameters:**

| | |
|---|---|
| Max epochs | 500 |
| Early stopping | 30 |
| Epochs trained | 438 |
| Learning rate | 0.0003 |
| Batch size | 24 |

**Document Type:** Handwritten

Show advanced parameters...

**Nr. of Words:** 82130

**Nr. of Lines:** 8894

Save | Train Set | Validation Set | Characters

### Learning Curve

CER vs Epochs — CER Train, CER Validation

**CER on Train Set:** 0.30%

**CER on Validation Set:** 1.60%

OK | Cancel

Agnes von Lincz hat verkaufft ain haus gelegen vor Widmertor ze Wienn zenegst
Jacobin der Paugkerin haus umb vier und zwainczig phunt Wienner phenning dem erbern
mann Veiten dem Valkchner und frawn Barbaren seiner hausfraw und ir baider erben
furbaser ledichlich und freileich zehaben und allen irn frumen damit zeschaffen ut littera
sonat Actum an Freitag vor Bartholomei Anno domini Mº ccccº xxiiº

Summa xlviii d.

| | |
|---|---|
| Agnes von Lincz | **P1** Agnes von **O1** Lincz |
| hat verkaufft | **E1** hat verkaufft |
| ain haus<br>    gelegen vor Widmertor ze Wienn<br>    zenegst / Jacobin der Paugkerin haus | **D1** ain haus<br>    **L** gelegen vor **O2** Widmertor ze Wienn<br>    **L** zenegst / **P2** Jacobin der Paugkerin **D2** haus |
| umb vier und zwainczig phunt Wienner phenning | **G1** umb vier und zwainczig phunt Wienner phenning |
| dem erbern / mann Veiten dem Valkchner<br>und frawn Barbaren seiner hausfraw<br>    und ir baider erben /<br>    furbaser ledichlich und freileich zehaben<br>    und allen irn frumen damit zeschaffen | **P3** dem erbern / mann Veiten dem Valkchner<br>und **P4** frawn Barbaren **BZ** seiner hausfraw<br>    und ir baider erben /<br>    furbaser ledichlich und freileich zehaben<br>    und allen irn frumen damit zeschaffen |
| ut littera / sonat | ut littera / sonat |
| Actum an Freitag vor Bartholomei Anno domini<br>M° cccc° xxii° / | Actum an Freitag vor Bartholomei Anno domini<br>M° cccc° xxii° / |
| Summa xlviii d. | Summa xlviii d. |

# Extracted people, relationships, events, spatial relations

**P1  Agnes von Lincz**
    VN Agnes, ORTSBEZUG (NN ?) Linz                  VN    first name

**P2  Jacobin der Paugkerin**                                    NN    surname
    VN (not given), NN/BER (both as for P5)           BER  occupation
    is wife of P5                                      ORTSBEZUG relation to a place

**P3  Veiten dem Valkchner**
    VN Veit NN/BERUF falconer

**P4  frawn Barbaren**
    VN Barbara, NN (as P3)
    is wife of P3

**P5  [Jacob der Paugker]** (only indirectly in the text, providing P2's name)
    VN Jakob, NN/BER Pauker

**E1: P1 sells D1 for G1 to P3+P4, Actum 1422, Summa**
state at the time of E1: **P4 is wife of P3**
state at the time of E1: **P2 is/was wife of P5** (likely already dead)
state at the time of: seller P1 and buyer P3+P4 are alive and contractually capable

**D1  ain haus**
    is outside of O2 = Widmertor (i.e. in the "Widmer Vorstadt" area outside the city walls)
    ist next to D2
**D2  Jacobin der Paugkerin haus**
    is referenced by P2

```xml
<p>
  <lb id="z001"/>
  <person id="P1">Agnes von <ort id="O1">Lincz</ort></person>

  <ereignis id="E1">hat verkaufft</ereignis>

  <objekt id="D1">ain haus</objekt>
    <lage>gelegen vor</lage> <ort id="O2">Widmertor ze Wienn</ort>
    <lage>zenegst</lage> <lb id="z002"/><person id="P2">Jacobin der Paugkerin</person> <objekt id="O2">haus</objekt>

  <betrag standard="24-0-0">umb vier und zwainczig phunt Wienner phenning</betrag>

  <person id="P3">dem erbern <lb id="z003"/>mann Veiten dem Valkchner</person>
  und <person id="P4">frawn Barbaren</person> <beziehung>seiner hausfraw</beziehung>
    und ir baider erben <lb id="z004"/>
    furbaser ledichlich und freileich zehaben und allen irn frumen damit zeschaffen

  ut littera <lb id="z005"/>sonat
  <datum wann="1422">Actum an Freitag vor Bartholomei Anno domini M° cccc° xxii°</datum> <lb id="z006"/>
  <betrag standard="0-0-48">Summa xlviii d.</betrag>
</p>
```

```xml
<listPerson>
 <person xml:id="P3">
  <persName>
   <forename>Veit</forename>
   <surname>Falkner</surname>
  </persName>
  <!-- More info on this person ... -->
 </person>
 <!-- More person entries ... -->
</listPerson>
```

→ TEI is needed for a minimal edition, not helpful for anything else

# Ontology

will be based on: CIDOC CRM, Bookkeeping Ontology, and Sem4MountHist

a first step:

**E1: P1 sells D1 for G1 to P3+P4, Actum 1422, Summa**
state at the time of E1: P4 is wife of P3
state at the time of E1: P2 is/was wife of P5 (likely already dead)
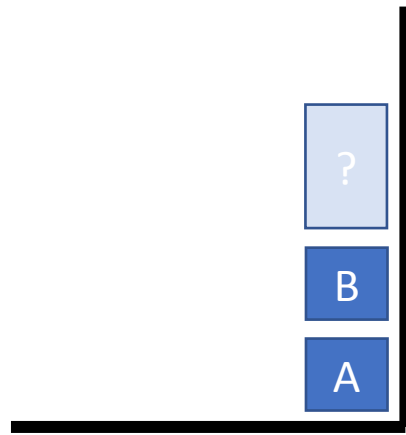state at the time of: seller P1 and buyer P3+P4 are alive and contractually capable

→  transformed in events, in temporal order:

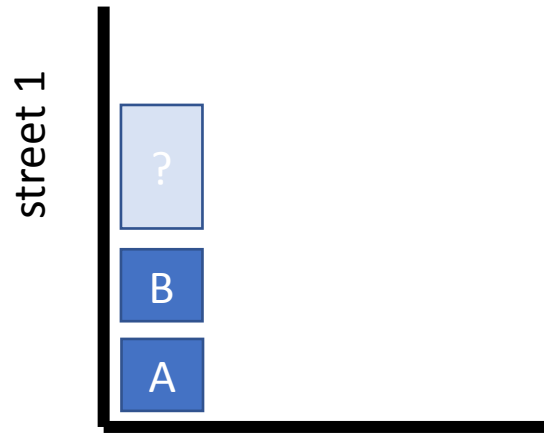> wedding of P3+P4  /  wedding of P2+P5  /  P1 becomes contractually capable
> death of P5 ?
> **E1: P1 sells D1 for G1 to P3+P4, Actum 1422, Summa**
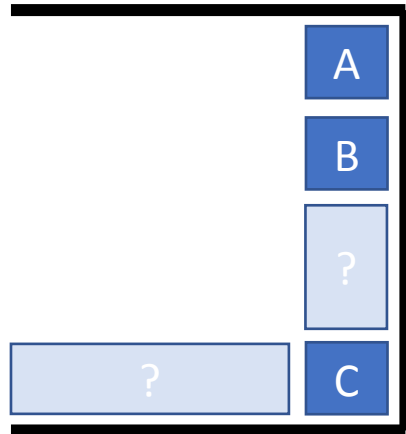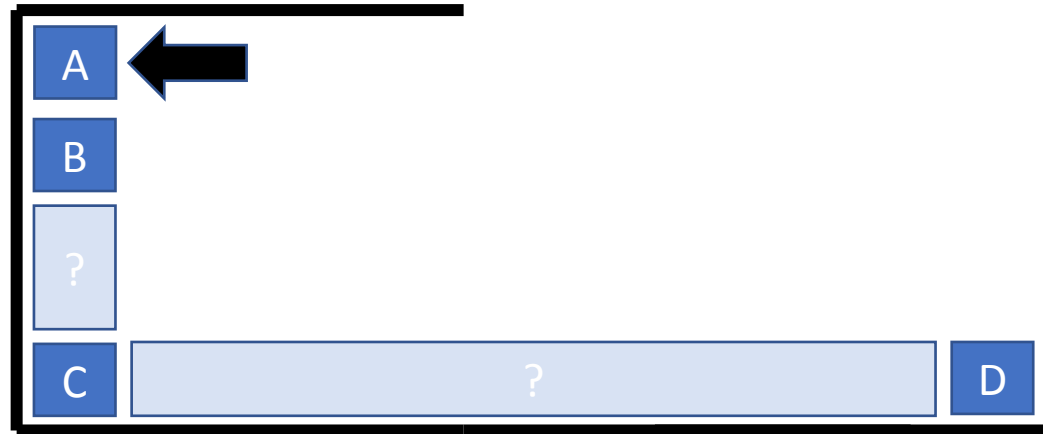> death of P1 / P3 / P4

house A is located in street 1, corner of street 2

house B is located in street 1 next to house A

more houses in street 1

house C is located in street 1, corner of street 3

more houses in street 3

house D is located in street 3, corner of street 4

☐ house A has a known position, based on archaeological finds

street 1

street 2

street 3

street 4

# Chains of houses

chain of houses 1420:
- house called "auf der Schut": Dankard Steiner
- house in Fischhof, 1420 sold by Kunigunde to Christian Feldner
- house of Reidecker

chain of houses 1431:
- house in Rotgasse (i.e. at Fischhof), "auf der Schut"
  bought by Dankard and Margarethe
  Margarethe's share inherited by Agnes
  1431 sold by Dankard and Agnes to Peter and Anna Stengel
- house 1431 von Christian dem Feldner


→ analysis: the same house belonging to Dankard Steiner

# Chains of houses 2

unified chain of events:

Dankard and Margarethe buy a house
Margarethe dies, Agnes inherits her share / 1420: Kunigunde sells a house to Christian den Feldner
1431: Dankard and Agnes sell the house

unified chain of houses:

- house in Rotgasse (at Fischhof), called "auf der Schut"

E1 (before Z1) bought by Dankard and Margarethe
Z1: 1420 owned by Dankard Steiner
E2 (after E1, before E3, unclear relationship to Z1): Margarethe's share inherited by Agnes
E3: 1431 sold by Dankard and Agnes to Peter and Anna Stengel

- house at Fischhof

E4: 1420 sold by Kunigunde to Christian Feldner
Z2: 1431 owned by Christian Feldner

- house

Z3: 1420 owned by Reidecker

# Local closed worlds

D ain  haws
    L gelegen hinder sannd Pangreczen ze Wienn
    N genant des Speten haus
    L zenegst P Hannsen des Wekcherleins haus an ainem tail
    L und_zenegst P Otten haus von Perichtolczdorf an dem andern tail

    davon man Jerleich dint zu der vorgenant sannd Pangreczen kappelln ze Wienn
    Siben und funfczig Wienner phenning ze purkrecht
    und nicht mer

→ how to deal with this?

# How to automate?

Formulaic language
- but many exceptions
- nested forms, e.g. for earlier changes of ownership

Our approach so far: recognition of key words and phrases
- surprisingly successful
- but is a manually created Excel file easier / more efficient?

Role of AI ?
- "Stift von Basel": mark Basel as place?