

# MEI Workshop

AIBM-Jahrestagung 2012  
Frankfurt am Main

Universitätsbibliothek Johann Christian Senckenberg  
18. September 2012  
14:00–18:00 Uhr

Dozenten:

Maja Hartwig, Johannes Kepper, Kristina Richts  
(Universität Paderborn, Musikwissenschaftliches Seminar Detmold/Paderborn)

# <workshop>

## MEI-Header

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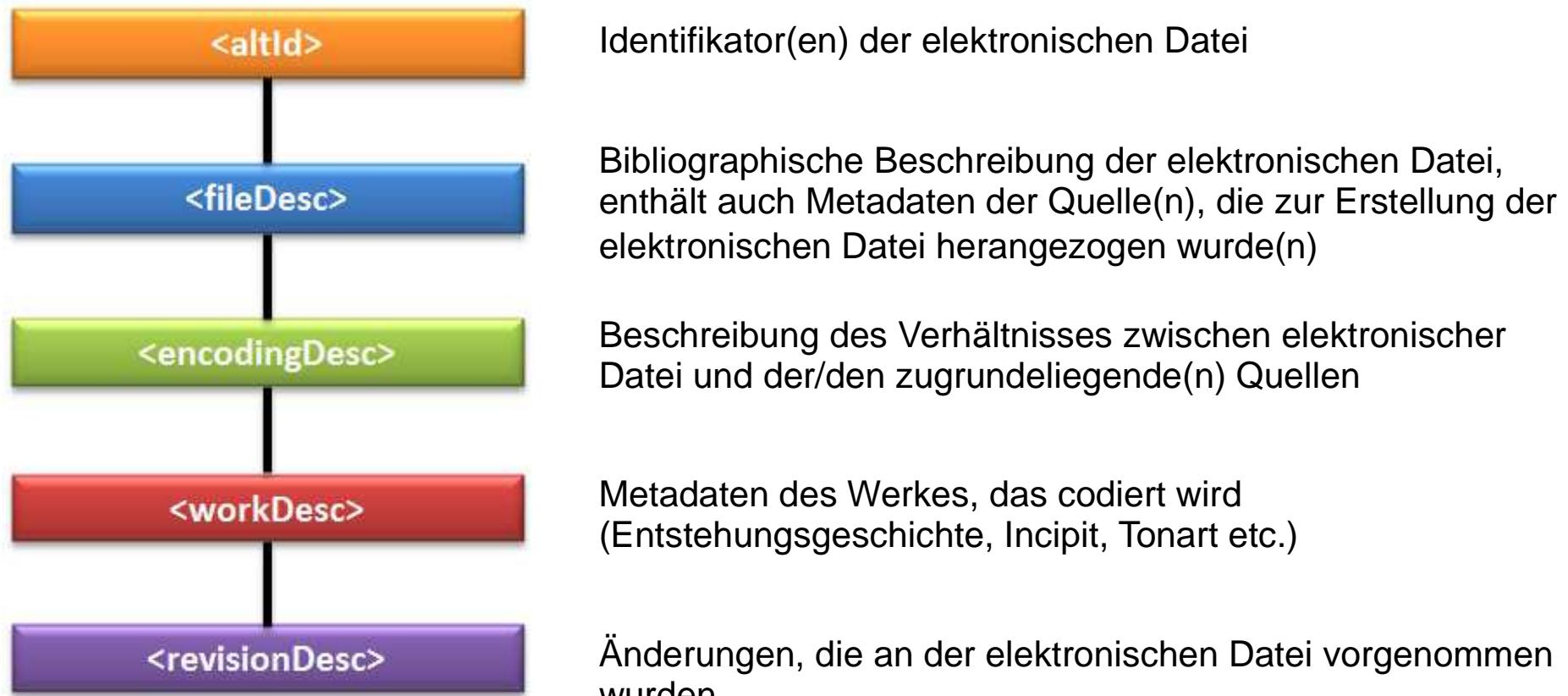
# Header: Grundlagen

## Bestandteile des Headers



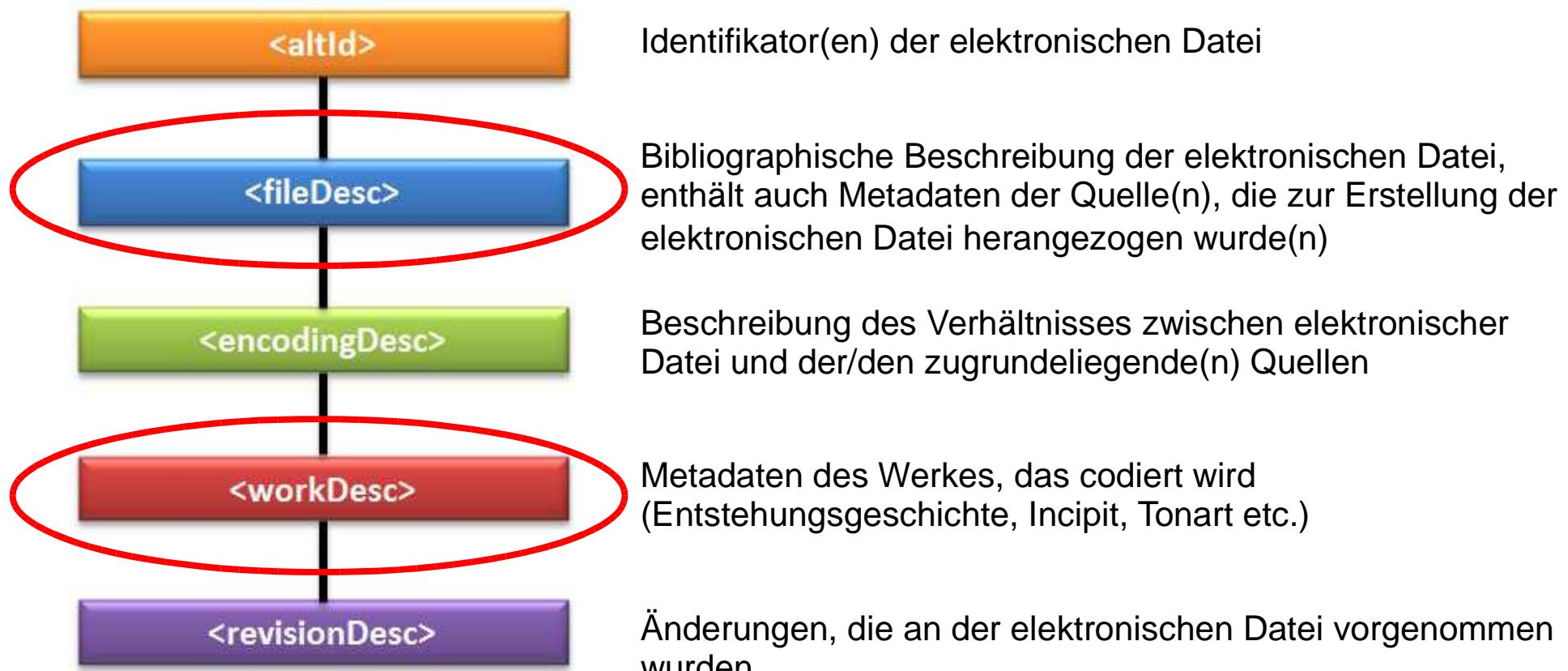
# Header: Grundlagen

## Bestandteile des Headers



# Header: Grundlagen

## Bestandteile des Headers



# Header: Grundlagen

## File Description

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<titleStmt>\*

<editionStmt>

<extent>

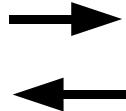
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<seriesStmt>

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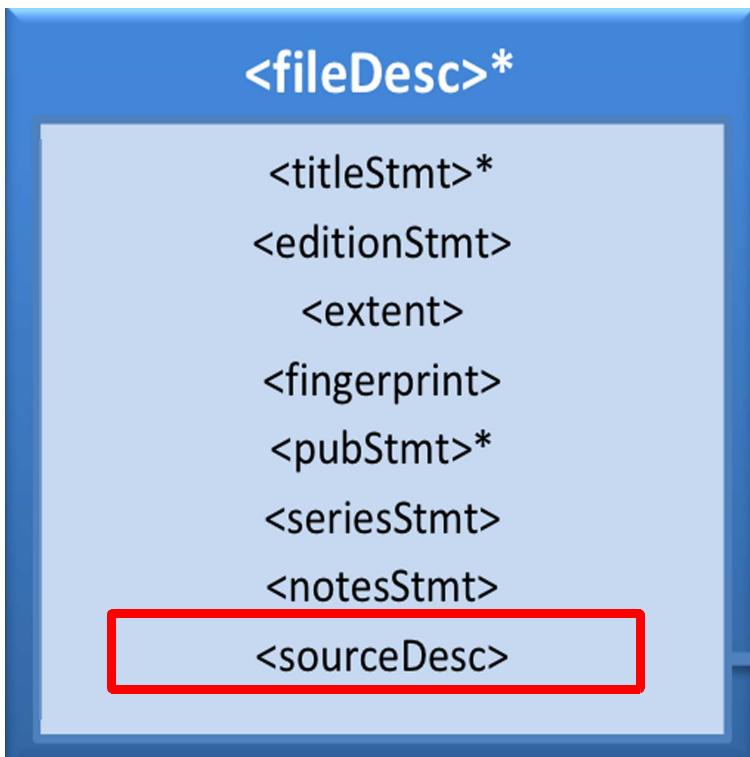
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Schumann_Schmetterling_vollständig.mei >
1  <?xml version="1.0" encoding="UTF-8"?>
2  <?xml-model href="mei-all.rng" type="application/xml" schematypens="http://relaxng.org/ns/structure/1.0"?>
3  <mei xmlns:xlink="http://www.w3.org/1999/xlink" xmlns="http://www.music-encoding.org/ns/mei"
4    meiversion="2012">
5    <meiHead>
6      <fileDesc>
7        <titleStmt>
8          <title>Lieder-Album für die Jugend für Singstimme(n) und Klavier; op. 79 : an
9            electronic transcription</title>
10         <respStmt>
11           <resp>Composed by:</resp>
12           <persName role="composer" authority="GND" authURI="http://d-nb.info/gnd"
13             dbkey="118611666">Robert Schumann</persName>
14           <resp>Machine-readable transcription by:</resp>
15           <persName role="encoder">Kristina Richts</persName>
16           </respStmt>
17         </titleStmt>
18         <pubStmt>
19           <unpub/>
20         </pubStmt>
21         <sourceDesc>
22           <source n="1" xml:id="op79">
23             <titleStmt>
24               <title type="main">Lieder-Album für die Jugend für Singstimme(n) und Klavier
25                 op. 79</title>
26               <title type="uniform">Lieder für die Jugend</title>
27               <respStmt>
28                 <persName role="composer" authority="GND" authURI="http://d-nb.info/gnd"
29                   dbkey="118611666">Robert Schumann</persName>
30                 <resp>Herausgegeben von:</resp>
31                 <persName role="editor" authURI="http://d-nb.info/gnd" authority="GND"
32                   dbkey="10400097X">Ulrich Mahlert</persName>
33                 </respStmt>
34               </titleStmt>
35               <editionStmt>
36                 <edition>Reprint der Erstausgabe Leipzig 1849</edition>
37               </editionStmt>
38               <pubStmt>
39                 <respStmt>
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41                     authURI="http://d-nb.info/gnd" dbkey="330001418">Breitkopf und
42                     Härtel</corpName>
43                   <resp>Druck:</resp>
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# Header: Grundlagen

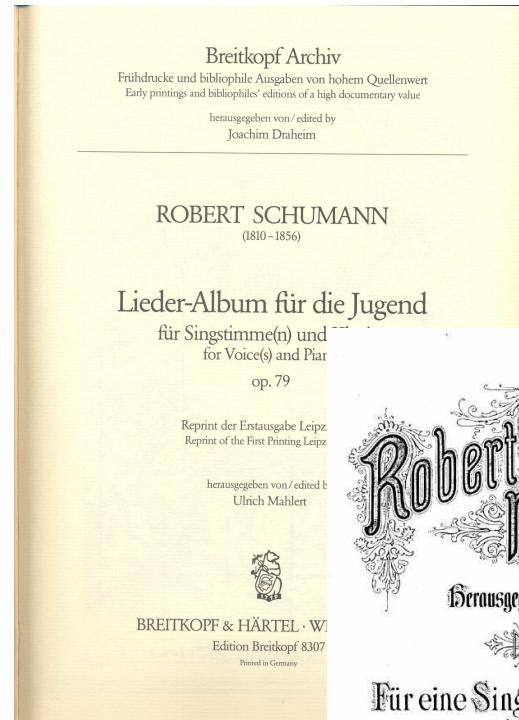
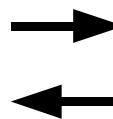
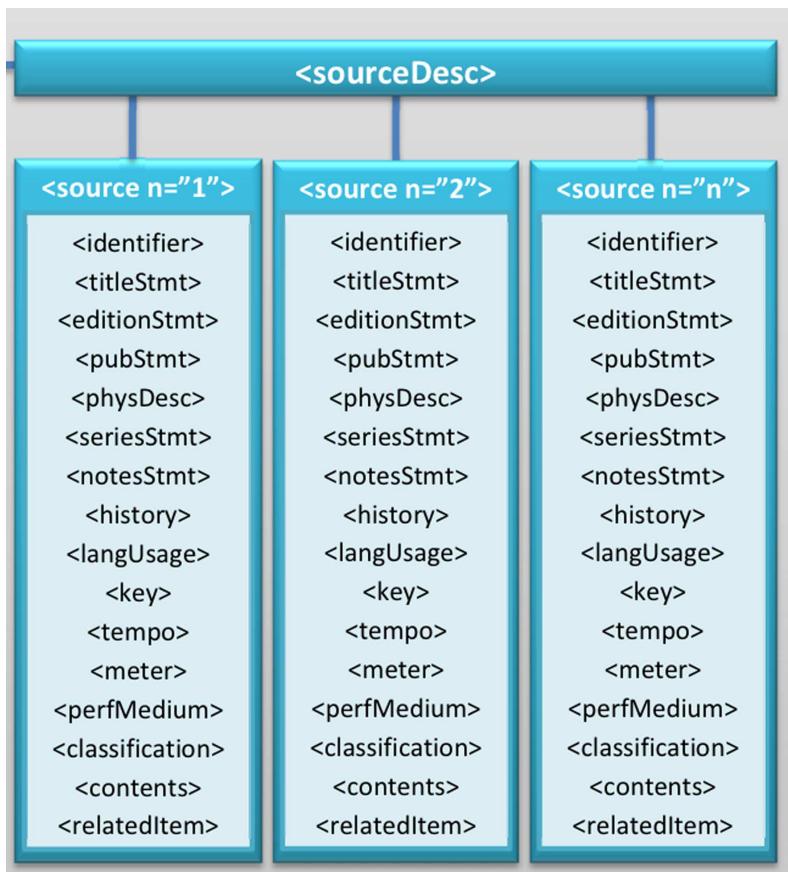
## File Description



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        <title>Lieder-Album für die Jugend für Singstimme(n) und Klavier; op. 79 : an
          electronic transcription</title>
        <respStmt>
          <resp>Composed by:</resp>
          <persName role="composer" authority="GND" authURI="http://d-nb.info/gnd"
            dbkey="118611666">Robert Schumann</persName>
          <resp>Machine-readable transcription by:</resp>
          <persName role="encoder">Kristina Richts</persName>
        </respStmt>
      </titleStmt>
      <pubStmt>
        <unpub/>
      </pubStmt>
      <sourceDesc>
        <source n="1" xml:id="op79">
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            <title type="main">Lieder-Album für die Jugend für Singstimme(n) und Klavier
              op. 79</title>
            <title type="uniform">Lieder für die Jugend</title>
            <respStmt>
              <persName role="composer" authority="GND" authURI="http://d-nb.info/gnd"
                dbkey="118611666">Robert Schumann</persName>
              <resp>Herausgegeben von:</resp>
              <persName role="editor" authURI="http://d-nb.info/gnd" authority="GND"
                dbkey="10400097X">Ulrich Mahlert</persName>
            </respStmt>
          </titleStmt>
          <editionStmt>
            <edition>Reprint der Erstausgabe Leipzig 1849</edition>
          </editionStmt>
          <pubStmt>
            <respStmt>
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                authURI="http://d-nb.info/gnd" dbkey="330001418">Breitkopf und
                Härtel</corpName>
            <resp>Druck:</resp>
          </pubStmt>
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</mei>
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# Header: Grundlagen

## Source Description



Lieder-Album für die Jugend  
für Singstimme(n) und  
for Voice(s) and Pianoforte  
op. 79

Reprint der Erstausgabe Leipzig  
Reprint of the First Printing Leipzig

herausgegeben von / edited by  
Ulrich Mahlert



BREITKOPF & HÄRTEL · WI  
Edition Breitkopf 8307  
Printed in Germany



N°138.

LIEDER-ALBUM  
für die Jugend.  
Op. 79.

Serien-Ausgabe  
Pr.M.3.55.ii.

Verlag von Breitkopf & Härtel in Leipzig.

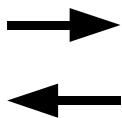
Die Resultate der kritischen Revision dieser Ausgabe sind  
Eigentum des Verlegers

# Header: Grundlagen

## Work Description

### <workDesc>

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  <tempo>
  <meter>
<perfMedium>
  <notesStmt>
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  <castList>
    <incip>
<contents>
<relatedItem>
```



**SCHMETTERLING.**

**Schnell.**

**Singstimme.**

V. 1. O Schmet - ter - ling sprich,  
V. 2. Jetzt fern und dann nah,  
V. 3. Ich thu' dir kein Leid:  
V. 4. So spräch' ich zu dir:

**Pianoforte.**

1. was flie - hest du mich? wa - rum doch  
2. jetzt hier und dann da - ich will dich  
3. o bleib' al - le - zeit! und wär' ich  
4. komm,komm doch zu mir! ich schenk dir

so 62

The musical score is for a vocal piece titled "SCHMETTERLING." It consists of two staves: a top staff for "Singstimme" (voice) and a bottom staff for "Pianoforte" (piano). The vocal part is set in 3/8 time with a key signature of one sharp. The piano part provides harmonic support. The lyrics are in German, divided into four stanzas (V. 1-4). The vocal line features eighth-note patterns and rests. The piano accompaniment includes eighth-note chords and sustained notes. The score is framed by an ornate border.

# Header: Grundlagen

## Struktur eines minimalen Headers

```
<meiHead>
  <fileDesc>
    <titleStmt>
      <title></title>
    </titleStmt>
    <pubStmt></pubStmt>
  </fileDesc>
</meiHead>
```

# Header: Grundlagen

## Struktur eines minimalen Headers

```
<meiHead>
    <b><fileDesc></b>
        <titleStmt>
            <title></title>
        </titleStmt>
        <pubStmt></pubStmt>
    </b></fileDesc>
</meiHead>
```

# File Description (<fileDesc>)

## Titel

```
<fileDesc>
  <titleStmt>
    <title>Schmetterling</title>
  </titleStmt>
  <pubStmt />
</fileDesc>
```

# File Description (<fileDesc>)

## Titel

```
<fileDesc>
  <titleStmt>
    <title>Schmetterling : eine elektronische
    Transkription</title>
  </titleStmt>
  <pubStmt/>
</fileDesc>
```

# File Description (<fileDesc>)

## Beteiligte Personen

```
<fileDesc>
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Transkription</title>
    <respStmt>
      <resp></resp>
      <persName></persName>
    </respStmt>
  </titleStmt>
  <pubStmt />
</fileDesc>
```

# File Description (<fileDesc>)

## Beteiligte Personen

```
<fileDesc>
  <titleStmt>
    <title>Schmetterling : eine elektronische
Transkription</title>
    <respStmt>
      <resp>Komponiert von:</resp>
      <persName>Robert Schumann</persName>
    </respStmt>
  </titleStmt>
  <pubStmt />
</fileDesc>
```

# File Description (<fileDesc>)

## Beteiligte Personen

```
<fileDesc>
  <titleStmt>
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Transkription</title>
    <respStmt>
      <resp>Komponiert von:</resp>
      <persName>Robert Schumann</persName>
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      <persName>Max Mustermann</persName>
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# File Description (<fileDesc>)

## Funktionsbezeichnungen von Personen

```
<titleStmt>
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        <resp role="composer">Komponiert
            von:</resp>
        <persName>Robert Schumann</persName>
        <resp role="encoder">Maschinenlesbare
            Transkription von:</resp>
        <persName>Max Mustermann</persName>
    </respStmt>
</titleStmt>
```

Terminologie der Funktionsbezeichnung: MARC Code List for Relators

# File Description (<fileDesc>)

## Funktionsbezeichnungen von Personen

```
<persName role="composer" authority="GND"  
authURI="http://d-nb.info/gnd"  
dbkey="118611666">Robert Schumann</persName>
```

Verwendete Normdatei für Personennamen: Gemeinsame Normdatei (GND)

# File Description (<fileDesc>)

## Status der Publikation

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# File Description (<fileDesc>)

## Erfassung von Quellen

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  </titleStmt>
  <pubStmt>
    <unpub/>
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</fileDesc>
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# Source Description (<sourceDesc>)

Container für einzelne Quellen

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# Source Description (<sourceDesc>)

Titel der Quelle

```
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</fileDesc>
```

# Source Description (<sourceDesc>)

## Titel der Quelle

```
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          die Jugend für Singstimme(n) und
          Klavier op. 79</title>
        <title type="uniform">Lieder für die
          Jugend</title>
      </titleStmt>
    </source>
  </sourceDesc>
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# Source Description (<sourceDesc>)

## Beteiligte Personen

```
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# Source Description (<sourceDesc>)

Vermerk einer bestimmten Ausgabe

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# Source Description (<sourceDesc>)

Vermerk einer bestimmten Ausgabe

```
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# Source Description (<sourceDesc>)

Angaben zur Publikation der Quelle

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</fileDesc>
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# Source Description (<sourceDesc>)

Angaben zur Publikation der Quelle: Verlag

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# Source Description (<sourceDesc>)

Angaben zur Publikation der Quelle: Verlagsort

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# Source Description (<sourceDesc>)

Angaben zur Publikation der Quelle: Bestellnummer

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# Source Description (<sourceDesc>)

Angaben zur Verfügbarkeit der Quelle

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          & Härtel,
          Wiesbaden</useRestrict>
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# Source Description (<sourceDesc>)

## Physische Beschreibung der Quelle

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# Source Description (<sourceDesc>)

## Physische Beschreibung der Quelle

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# Source Description (<sourceDesc>)

Ist die Quelle Teil einer Reihe?

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# Source Description (<sourceDesc>)

## Reihenangabe

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# Source Description (<sourceDesc>)

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    <seriesStmt/>
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# Source Description (<sourceDesc>)

## Sachliche Erschließung

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```

# Source Description (<sourceDesc>)

## Inhalt

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    <editionStmt/>
    <pubStmt/>
    <physDesc/>
    <seriesStmt/>
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# Source Description (<sourceDesc>)

## Inhalt

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      <contentItem>2. Schmetterling</contentItem>
      ...
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</sourceDesc>
```

# Work Description (<workDesc>)

Erschließung des Werkes, das codiert wird

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    </titleStmt>
    <pubStmt />
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  <workDesc></workDesc>
</meiHead>
```

# Work Description (<workDesc>)

Container für einzelne Werke

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</workDesc>
```

# Work Description (<workDesc>)

## Tonart, Taktart, Tempoangabe

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      <respStmt/>
    </titleStmt>
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    <tempo>Schnell.</tempo>
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</workDesc>
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# Work Description (<workDesc>)

## Angaben zur Besetzung

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      <title/>
      <respStmt/>
    </titleStmt>
    <key/>
    <tempo/>
    <meter/>
    <perfMedium/>
  </work>
</workDesc>
```

# Work Description (<workDesc>)

## Angaben zur Besetzung

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    <tempo/>
    <meter/>
    <perfMedium>
      <instrumentation>
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        <instrVoice n="2">Pianoforte.</instrVoice>
      </instrumentation>
    </perfMedium>
  </work>
</workDesc>
```

# Work Description (<workDesc>)

## Sachliche Erschließung des Werkes

```
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        <instrVoice n="1">Singstimme.</instrVoice>
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      </instrumentation>
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# Work Description (<workDesc>)

## Incipit

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      ...
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      <score></score>
    </incip>
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# Revision Description (<revisionDesc>)

Vermerk von Änderungen an der Datei

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# Revision Description (<revisionDesc>)

## Container für Änderungen (<change>)

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    <change n="1">
      <respStmt>
        <persName>Max Mustermann</persName>
      </respStmt>
      <changeDesc>
        <p>Anlegen der Datei und Codierung des
          Headers</p>
      </changeDesc>
      <date isodate="2012-09-18"/>
    </change>
  </revisionDesc>
</meiHead>
```

# MEI-Music

<music></music>

# Music: Grundlagen



<note pname="c" oct="4" dur="4"/>

# Music: Punktierung



<note pname="c" oct="4" dur="4" dots="1"/>

# Music: Vorzeichen

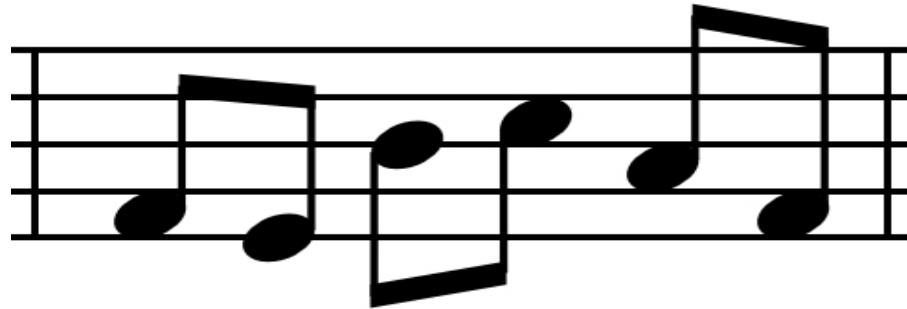


```
<note pname="e" accid="f" oct="4" dur="4"/>
```



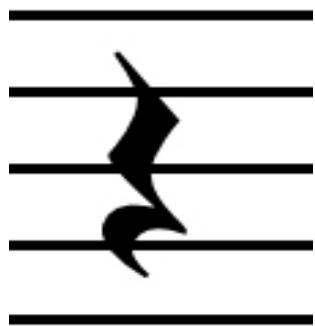
```
<note pname="c" oct="5" dur="2">  
  <accid accid="s"/>  
</note>
```

# Music: Balkung



```
<beam>
  <note pname="f" oct="4" dur="8"/>
  <note pname="e" oct="4" dur="8"/>
</beam>
<beam>
  <note pname="b" oct="4" dur="8"/>
  <note pname="c" oct="5" dur="8"/>
</beam>
<beam>
  <note pname="a" oct="4" dur="8"/>
  <note pname="f" oct="4" dur="8"/>
</beam>
```

# Music: Pausen



<rest dur="4"/>

A musical staff consisting of five horizontal black lines. It features two vertical black bar lines: one on the far left and another on the far right. A large, hollow black shape, similar to the one above, is positioned in the first measure. In the second measure, there is a single black oval note head on the third line from the bottom. The note has a vertical stem extending downwards and a short horizontal tail (beam) extending to the right.

<rest dur="4"/>  
<note pname="b" oct="4" dur="2"/>

# Music: Schmetterling



Bitte codieren Sie das Beispiel innerhalb eines layers!

# Music: Codierung

```
<layer>
```

```
  <note pname="d" oct="5" dur="8" stem.dir="down"/>  
  <note pname="e" oct="5" dur="4" stem.dir="down"/>  
  <note pname="f" oct="5" dur="4" stem.dir="down"/>
```

```
</layer>
```

# Music: Schmetterling II



Schmet- ter- ling

# Music: Codierung mit Text

```
<layer>
```

```
  <note pname="d" oct="5" dur="4" stem.dir="up" syl="Schmet-"/>
  <note pname="e" oct="5" dur="4" stem.dir="up" syl="ter-"/>
  <note pname="f" oct="5" dur="4" stem.dir="up" syl="ling"/>
```

```
</layer>
```

# Music: eine andere Möglichkeit...

```
<layer>
  <note pname="d" oct="5" dur="8" stem.dir="down">
    <verse n="1">
      <syl con="d" wordpos="i">Schmet</syl>
    </verse>
  </note>
  <note pname="e" oct="5" dur="8" stem.dir="down">
    <verse n="1">
      <syl con="d">ter</syl>
    </verse>
  </note>
  <note pname="e" oct="5" dur="8" stem.dir="down">
    <verse n="1">
      <syl wordpos="t">ling</syl>
    </verse>
  </note>
</layer>
```

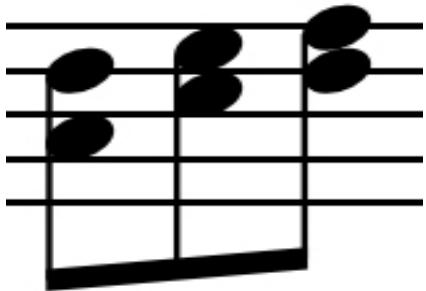
# Music: Vollständiger Takt



Schmet- ter- ling

```
<measure>
  <staff>
    <layer>
      <note pname="d" oct="5" dur="4" stem.dir="down"
        syl="Schmet-"/>
      <note pname="e" oct="5" dur="4" stem.dir="down"
        syl="ter-"/>
      <note pname="f" oct="5" dur="4" stem.dir="down"
        syl="ling"/>
    </layer>
  </staff>
</measure>
```

# Music: Akkorde



```
<beam>
  <chord dur="8"
    stem.dir="down">
    <note pname="a" oct="4"/>
    <note pname="d" oct="5"/>
  </chord>
  <chord dur="8"
    stem.dir="down">
    <note pname="c" oct="5"/>
    <note pname="e" oct="5"/>
  </chord>
  <chord dur="8"
    stem.dir="down">
    <note pname="d" oct="5"/>
    <note pname="f" oct="5"/>
  </chord>
</beam>
```

# Music: staff Definition



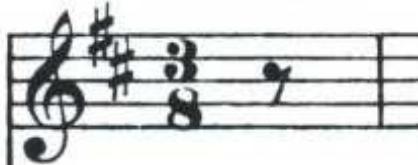
```
<staffDef n="1" lines="5" clef.line="2" clef.shape="G"  
meter.count="3" meter.unit="8" key.sig="2s"/>
```

# Music: Score Definition



```
<scoreDef meter.count="3" meter.unit="8"  
    key.sig="2s">  
    <staffGrp>  
        <staffGrp>  
            <staffDef n="1" lines="5"  
                clef.line="2" clef.shape="G" />  
        </staffGrp>  
        <staffGrp symbol="brace">  
            <staffDef n="2" lines="5"  
                clef.line="2" clef.shape="G"/>  
            <staffDef n="3" clef.shape="F"  
                clef.line="4" lines="5"/>  
        </staffGrp>  
    </staffGrp>  
</scoreDef>
```

# Music: Der Auftakt vom Schmetterling



Codieren Sie eine scoreDef sowie Pausen und Noten in den entsprechenden Takten!

A musical score for two staves. The top staff is treble clef with a key signature of two sharps and a common time signature. It contains one note and a dynamic marking 'p'. The bottom staff is bass clef with a key signature of two sharps and a common time signature. It also contains one note.

# Music: Dynamik und Artikulation



Ein Beispiel:

```
<layer>
  <note pname="a" oct="4" dur="8"
    stem.dir="up" artic="stacc"/>
  <dynam place="below">p</dynam>
  <dir place="above">Schnell</dir>
</layer>
```

# Music: „Container für die Musik“

<music> Das music-Element enthält den vollständigen Musikteil

<body> Das body-Element enthält einen oder mehr Segmente der Musik

<mdiv> mdiv= Musical division

<score> Das score-Element definiert z.B. eine Partitur

<section>

</section>

</score>

</mdiv>

</body>

</music>

# Music: einzelne Stimmen

```
<music>
  <body>
    <mdiv>
      <part>
        <parts>
          <section>
            </section>
          </parts>
        </part>
      </mdiv>
    </body>
  </music>
```

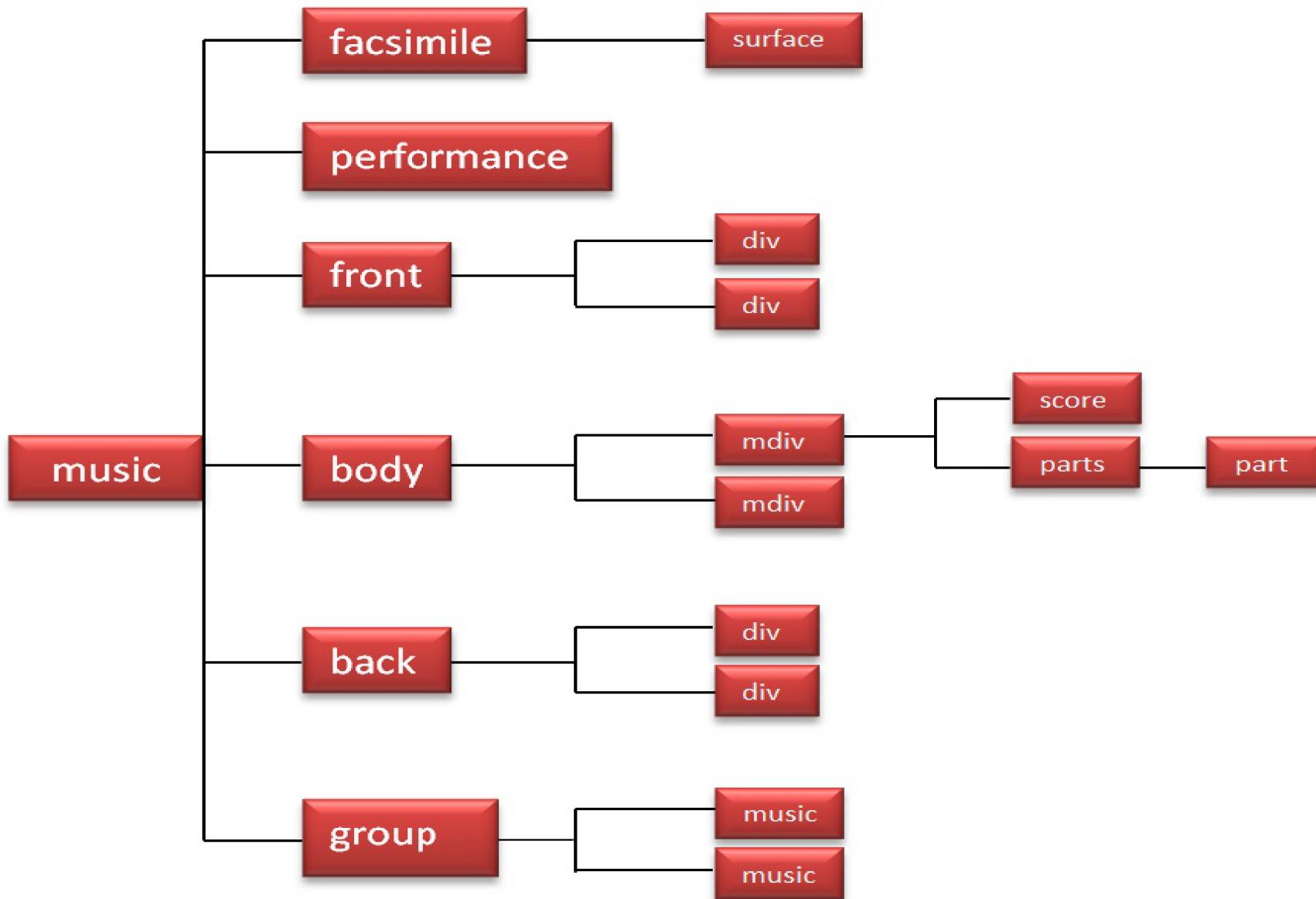
Das part-Element ermöglicht die Codierung einzelner Stimmen

# Music: Ein Beispiel

```
<music n="opera">
  <body>
    <mdiv n="act_1">
      <mdiv n="scene_1">
        <score/>
      </mdiv>
    <mdiv n="act_2">
      <mdiv n="scene_1">
        <score/>
      </mdiv>
    </mdiv>
    <mdiv n="act_3">
      <score/>
    </mdiv>
  </body>
</music>
```

„Struktur“ einer Oper mit 3 Akten und in den ersten beiden mit jeweils einer Szene

# Music: <music>



# Music: Der Weg zur einzelne Note

```
<music>
  <body>
    <mdiv>
      <score>
        <section>
          <measure>
            <staff>
              <layer>
                <note/>
              </layer>
            </staff>
          </measure>
        </section>
      </score>
    </mdiv>
  </body>
</music>
```

# Music: Artikulation



Mögliche Codierung:

1. `<note artic="acc"/>`
2. `<note>`  
`<artic artic="acc"/>`  
`</note>`

# Music: Bögen



One-pass-encoding and standoff-markup



Slur across the barline

# Music: Mögliche Codierung

- One-pass-encoding



```
<layer>
  <note pname="e" oct="4" dur="8"
    stem.dir="down" slur="i1"/>
  <note pname="d" oct="4" dur="4"
    stem.dir="down"/>
  <note pname="c" oct="4" dur="8"
    stem.dir="down" slur="t1"/>
</layer>
```

# Music: Mögliche Codierung II

- standoff-markup



```
<staff>
  <layer>
    <note pname="e" oct="3"
      dur="8" xml:id="note_1"/>
    <note pname="a" oct="3"
      dur="4" xml:id="note_2"/>
    <note pname="g" oct="3"
      dur="8" xml:id="note_3"/>
  </layer>
</staff>
<slur staff="2" curvedir="above"
  startid="#note_1" endid="#note_3"/>
```

# Music: Mögliche Codierung III

```
<measure>
  <staff>
    <layer>
      <note/>
      <note/>
    </layer>
  </staff>
</measure>
<measure>
  <staff>
    <layer>
      <note/>
      <note/>
    </layer>
  </staff>
  <slur staff="1" layer="1" dur="1m+2" curvedir="above"/>
</measure>
```



# Music: Text

A musical score consisting of two staves. The top staff uses a soprano C-clef and the bottom staff uses an alto F-clef. Both staves are in common time. The music includes various note values such as quarter notes, eighth notes, sixteenth notes, and thirty-second notes. The lyrics are written below the notes:

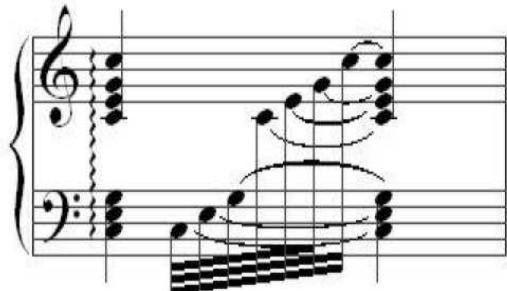
Ein' fe - ste Burg\_ ist un \_\_- ser Gott, ein'  
Er hilft uns frei\_\_ aus al \_\_- ler Not, die

Encoding of two verses

# Music: 2 Verse

```
<layer n="1">
  <note pname="d" oct="5" dur="4" stem.dir="up">
    <verse n="1">
      <syl>Ein`</syl>
    </verse>
    <verse n="2">
      <syl>Er</syl>
    </verse>
  </note>
</layer>
```

# Music: Ornamentation



<arpeg/>

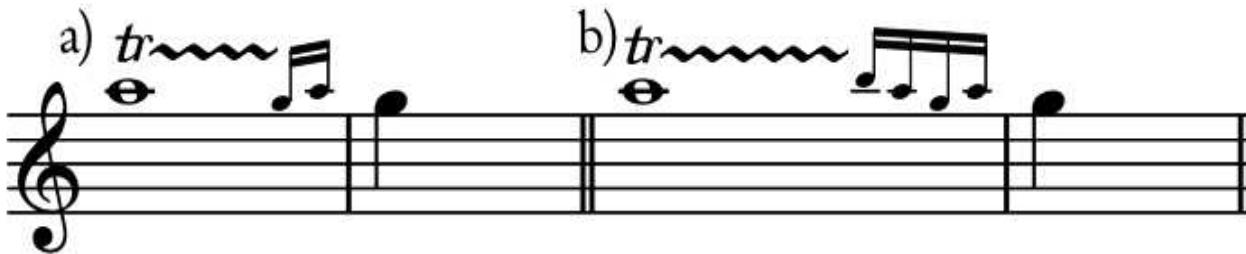


<note grace="unacc" size="cue"/>



<hairpin/>

# Music: Triller und anderes



```
<trill>  
<note></note>  
</trill>
```



```
<tuplet num="3">  
<note/>  
<note/>  
<note/>  
</tuplet>
```

**Andante**

A musical example in bass clef, 4/4 time, with a key signature of one flat. The tempo is marked "Andante" and the dynamic is "mf". It consists of two measures of eighth-note patterns.

# Music: Ossia

```
<measure>
  <ossia>
    <staff n="ossia">
      <!-- content of the alternative staff -->
      <layer>
        <note pname="e" oct="4" dur="4" stem.dir="up"/>
        <beam>
          <note pname="g" oct="4" dur="8" stem.dir="up"/>
          <note pname="f" oct="4" dur="8" stem.dir="up"/>
        </beam>
        <note pname="e" oct="4" dur="4" stem.dir="up"/>
      </layer>
    </staff>
    <staff n="1">
      <!-- content of the original staff -->
      <layer>
        <note pname="e" oct="4" dur="4" stem.dir="up"/>
        <note pname="f" oct="4" dur="4" stem.dir="up"/>
        <note pname="e" oct="4" dur="2" stem.dir="up"/>
      </layer>
    </staff>
  </ossia>
</measure>
```

# Music: Was ist hier falsch?

```
<section>
  <measure>
    <staff>
      <note pname="e" oct="4" dur="4"/>
      <note pname="d" oct="4" dur="4"/>
      <note pname="f" accid="s" oct="4" dur="4"/>
      <note pname="a" oct="4" dur="4"/>
    </staff>
  </measure>
</section>
```

# <workshop/>