

Going beyond *Google Translate*?

Ciclo 2012 di seminari interni CRS4
29/02/2012

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A.D. MDLXII





Data and text mining

Bag of Peaks: interpretation of NMR spectrometry

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<http://bioinformatics.oxfordjournals.org/content/25/2/258.full>

PERCEPTION

p

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2011 volume 40(11) pages 1282 – 1289

doi:10.1068/p6916

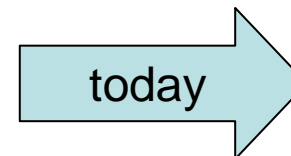
Cite as:

Lorusso L, Brelstaff G, Brodo L, Lagorio A, Grosso E, 2011, "Visual judgments of kinship: An alternative perspective" *Perception* 40(11) 1282 – 1289

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Visual judgments of kinship: An alternative perspective

Ludovica Lorusso, Gavin Brelstaff, Linda Brodo, Andrea Lagorio, Enrico Grosso



F.Chessa & G.Brelstaff



CHIItaly2011

13-16 September 2011
Alghero, Italy

Going beyond *Google Translate*?

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Natural Exploration of 3D Models

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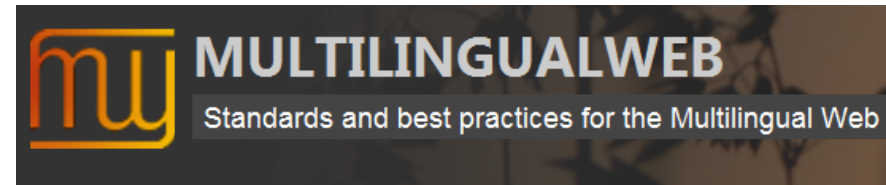
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W3C Workshop Report: Content on the Multilingual Web

4-5 April 2011, Pisa, Italy



http://videolectures.net/w3cworkshop2011_brelstaff_interactive/



ugr

May 2011

Universidad
de **Granada**

poetry 2011



poetry corner

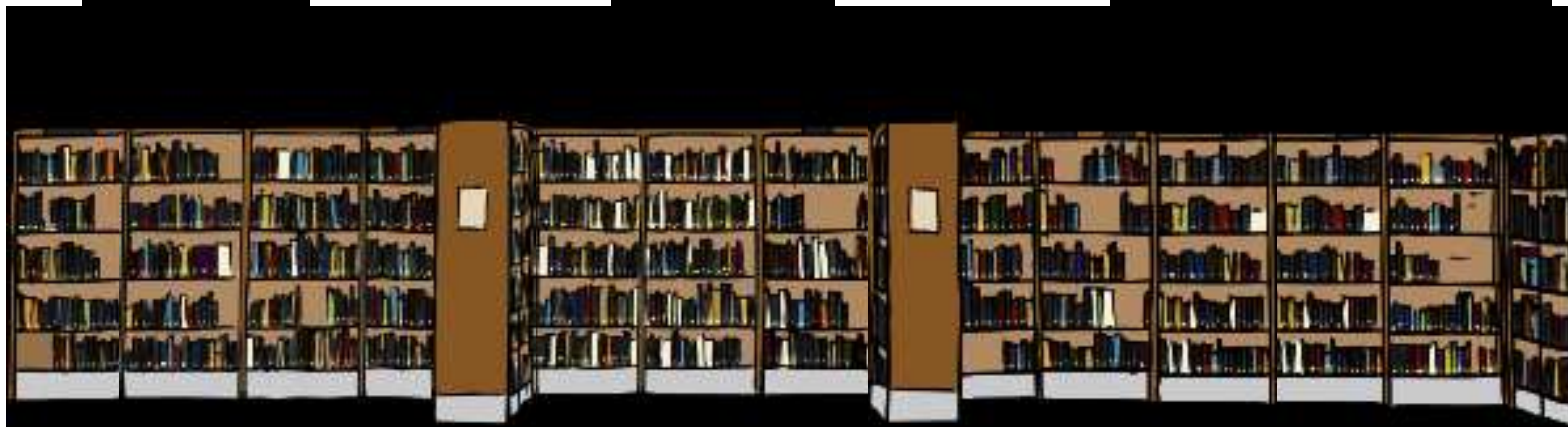


poetry corner

Fiction

Poetry

Healthy Living

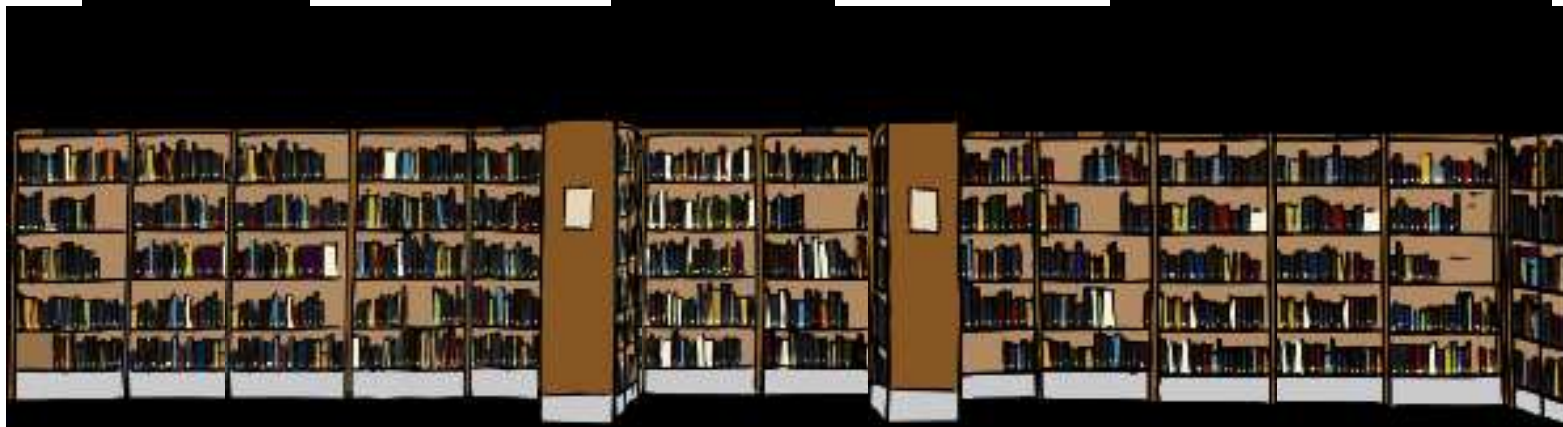


poetry corner

Fiction

Poetry

Healthy Living

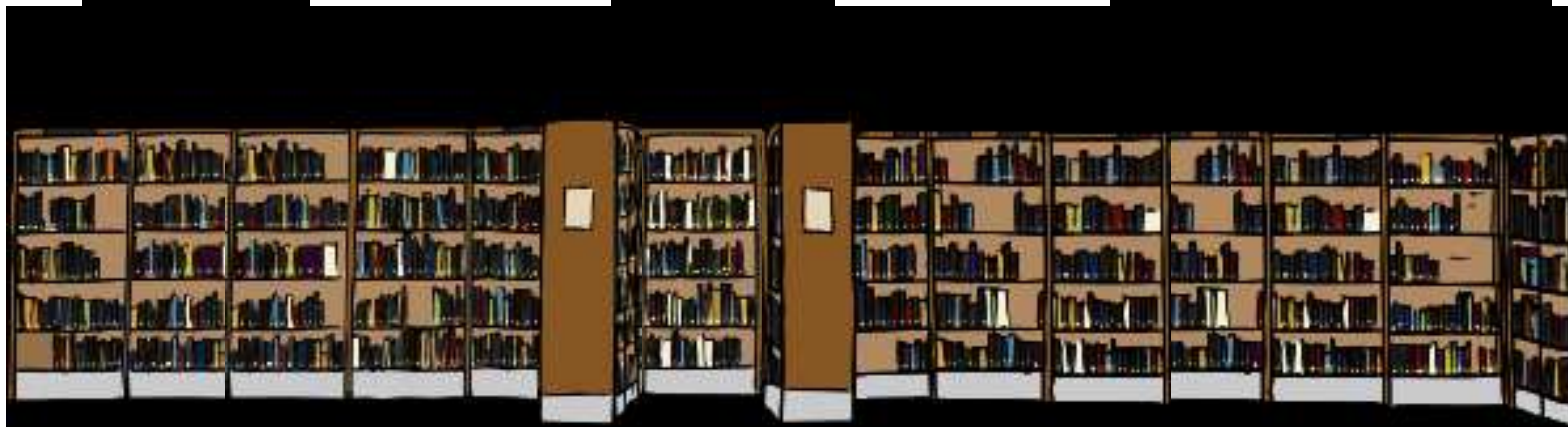


poetry corner

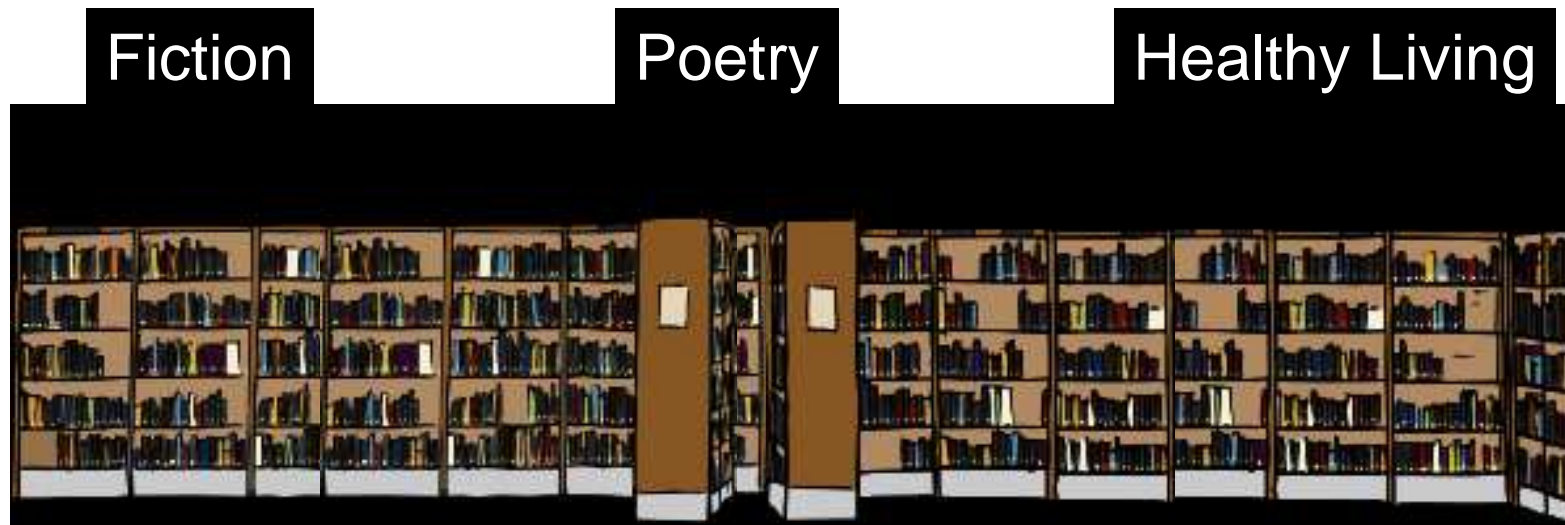
Fiction

Poetry

Healthy Living



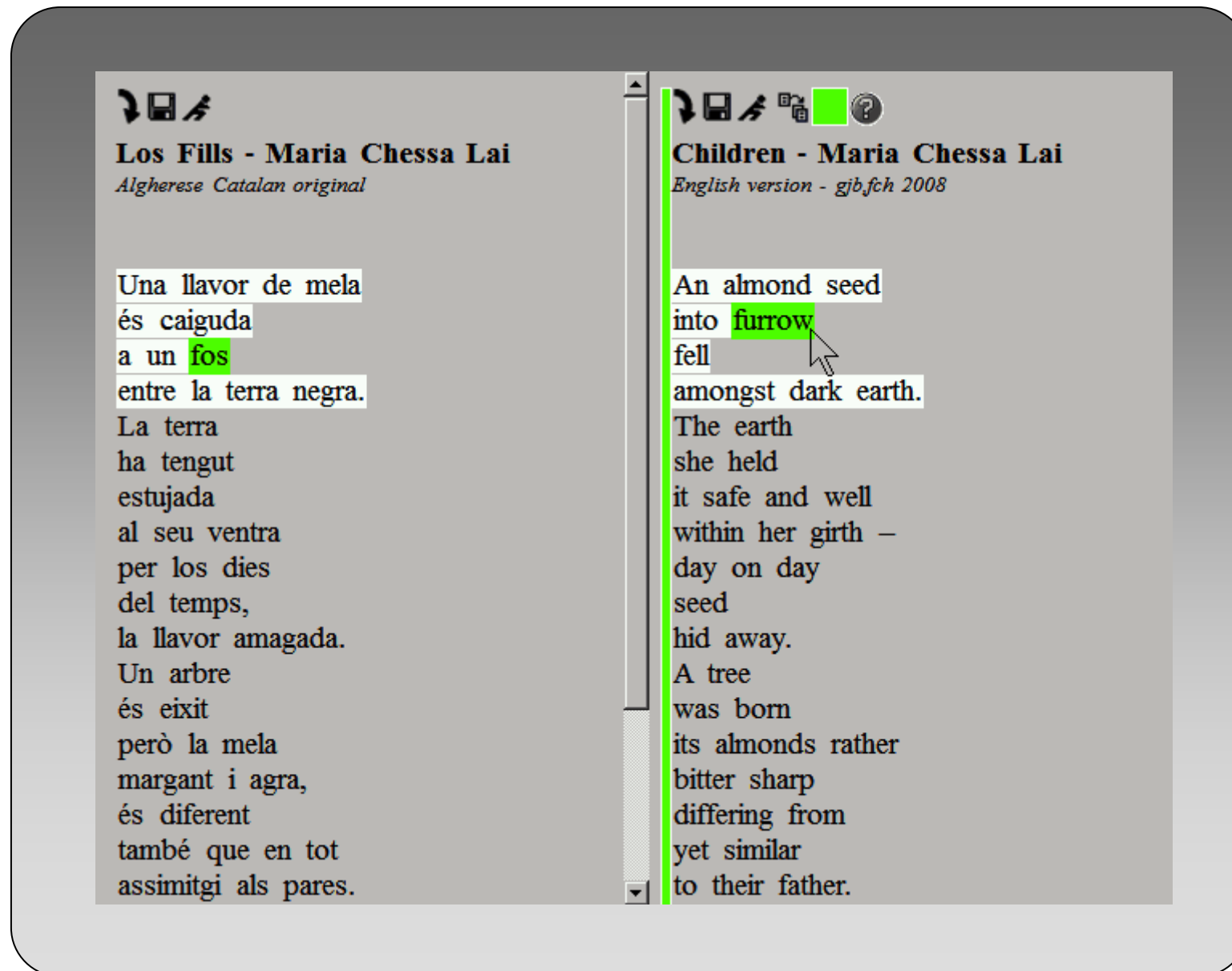
poetry corner (UK, 2011)



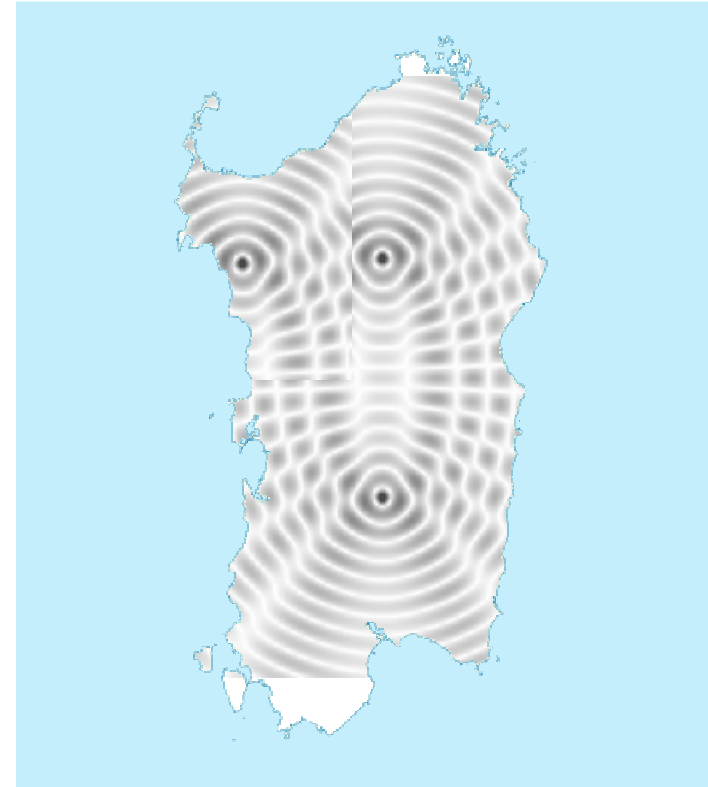
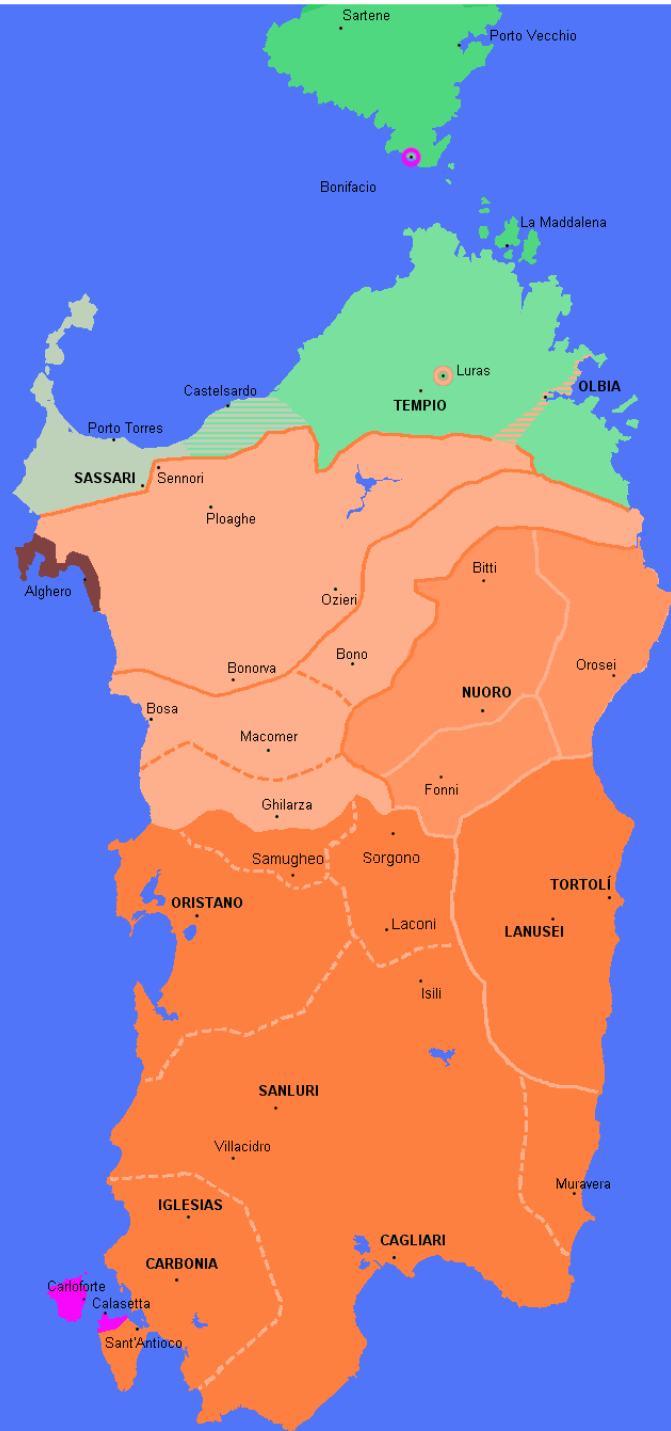
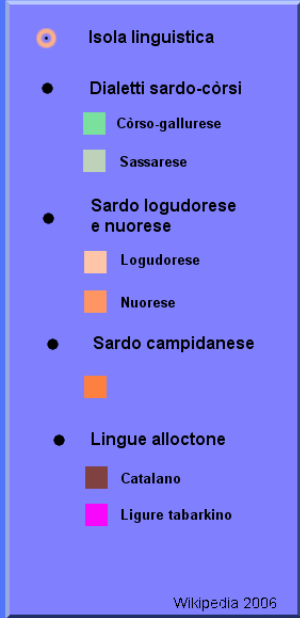
The Waste Land iPad app earns back its costs in six weeks on the App Store
The Guardian 8 Aug 2011



Alghero app - html



Le lingue della Sardegna



Echo Chamber –
natural resonances





Sardinia

Genius loci

the
creative spirits
of place
– *not just geolocation.*

Minority language

a
seed-bed
for poetic expression,
- *not just ICT communication.*

Whenever we lose a language the
“genetic basis” for such expression
diminishes, globally

Internet economy - www



He was the cat that walked by himself
and all places were alike to him.

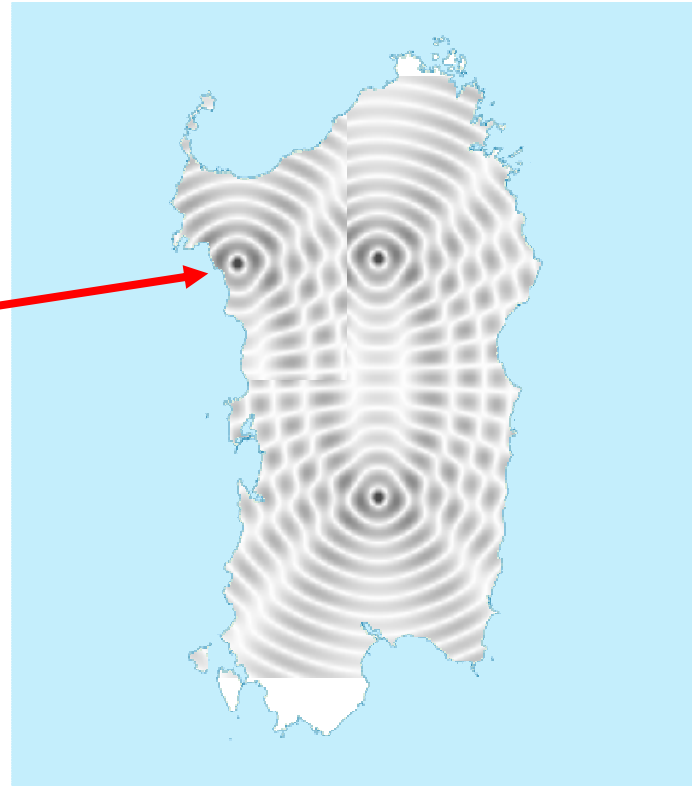
Kipling

This talk:

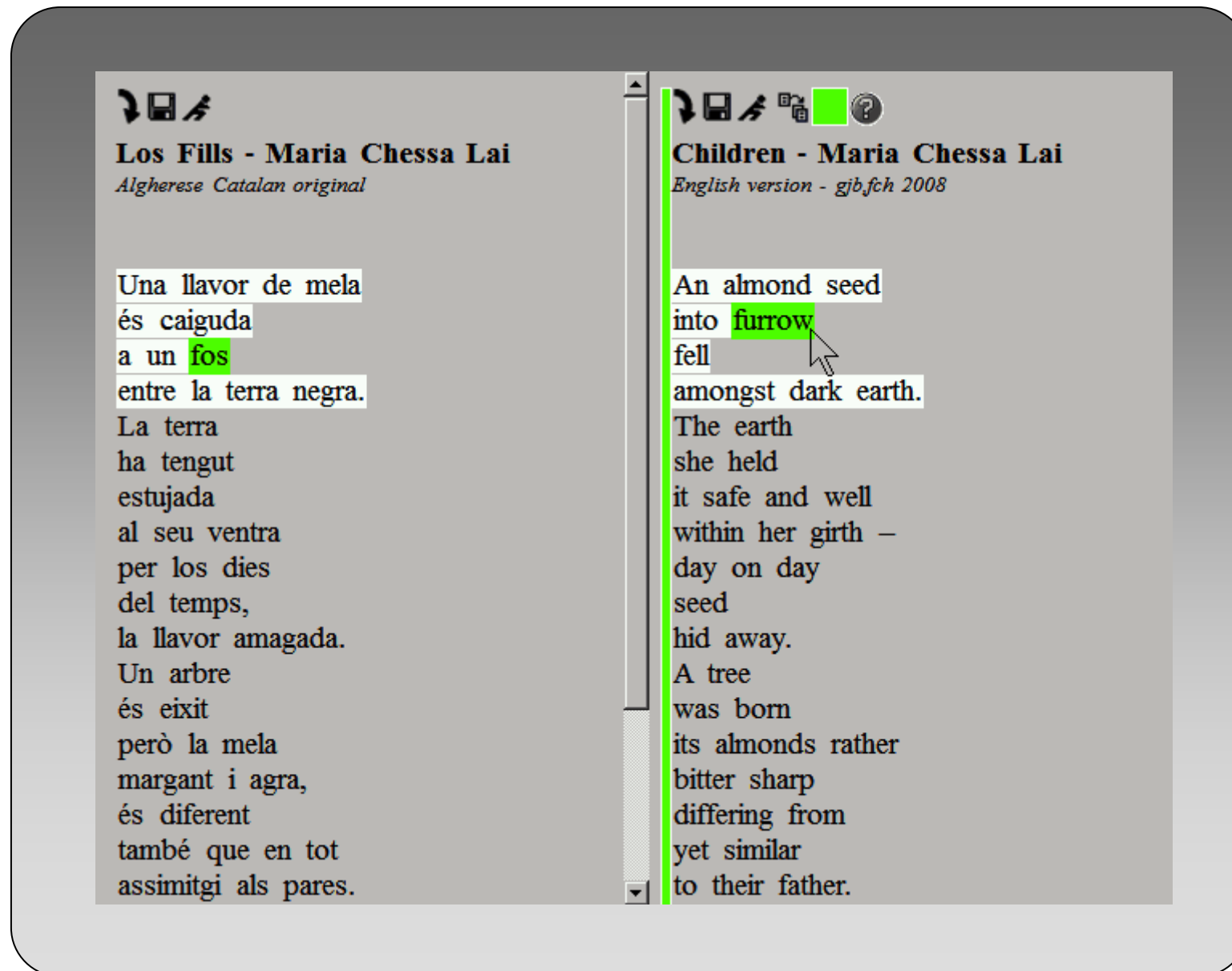
Alghero

Poetry

HCI

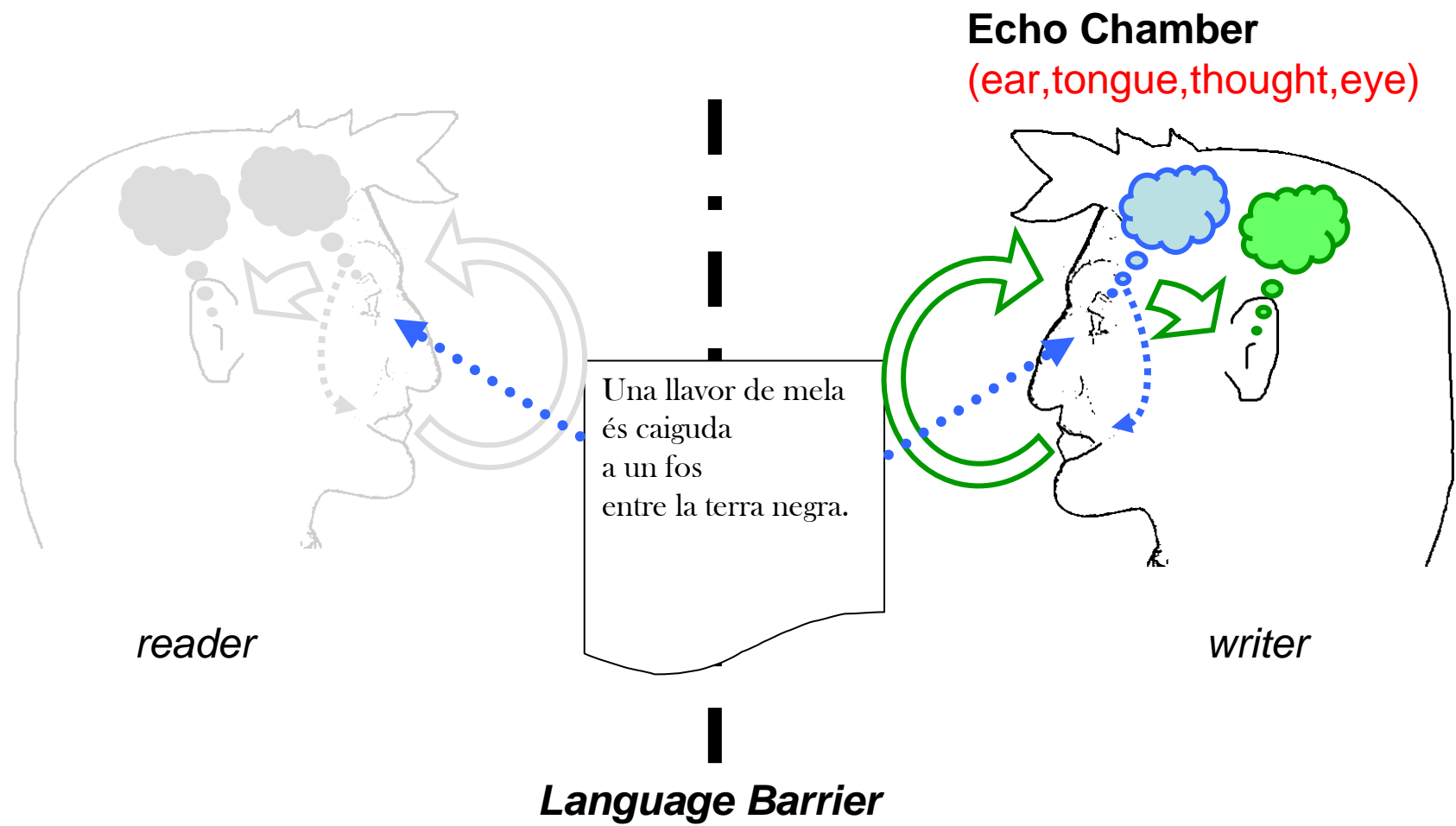


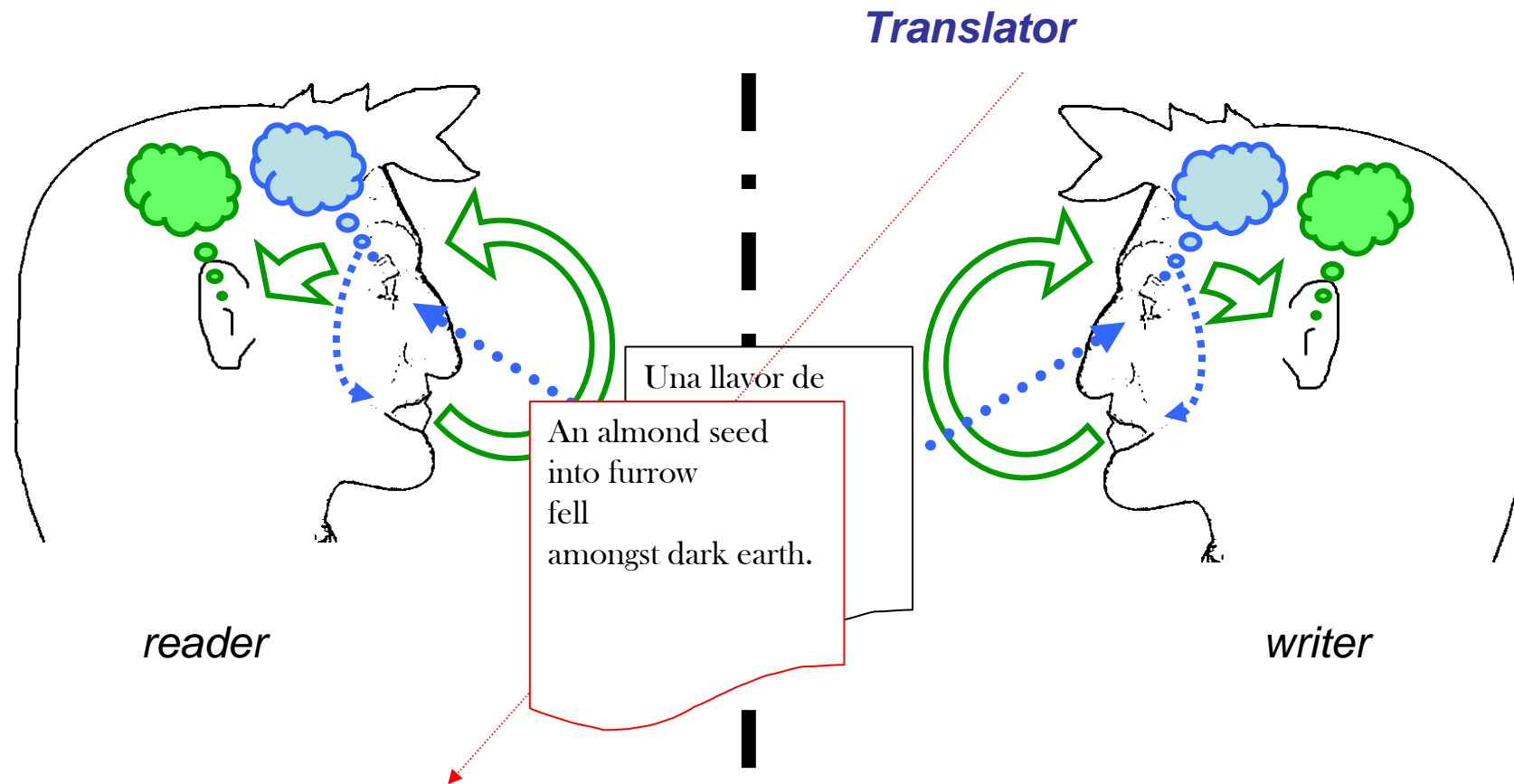
Screenshot



Resulting alignment

	
Los Fills - Maria Chessa Lai <i>Algherese Catalan original</i>	Children - Maria Chessa Lai <i>English version - gjb,fch 2008</i>
Una llavor de mela és caiguda a un fos entre la terra negra. La terra ha tengut estujada al seu ventra per los dies del temps, la llavor amagada. Un arbre és eixit però la mela margant i agra, és diferent també que en tot assimitgi als pares.	Una→An <i>de_mela</i> →almond <i>llavor</i> →seed <i>a</i> →into <i>fos</i> →furrow <i>és_caiguda</i> →fell <i>entre</i> →amongst <i>negra</i> →dark <i>terra</i> →earth. <i>La</i> →The <i>terra</i> →earth she held <i>estujada</i> →it safe and well <i>al</i> →within <i>seu</i> →her <i>ventra</i> →girth – <i>per los dies del temps</i> →day on day <i>llavor</i> →seed <i>amagada</i> →hid away. <i>Un</i> →A <i>arbre</i> →tree <i>és_eixit</i> →was born <i>la_mela</i> →its almonds <i>però</i> →rather <i>margant</i> →bitter <i>agra</i> →sharp <i>és_diferent</i> →differing from <i>també_que_en_tot</i> →yet <i>assimitgi</i> →similar <i>als</i> →to their <i>pares</i> →father.





Parallel text alignment ↔ to communicate **semantics**

- standards-based markup (TEI, XML), html delivery
- going beyond *Google Translate* →

<p>F.Chessa</p> <p>An almond seed into furrow fell amongst dark earth.</p>	<p>Una llavor de mela és caiguda a un fos entre la terra negra.</p>
---	--

Translate

From: Catalan ▼ ↔ To: English ▼ Translate

Click for alternate translations

Una llavor de mela és caiguda a un fos entre la terra negra. La terra ha tengut estujada al seu ventra per los dies del temps, la llavor amagada. Un arbre és eixit però la mela margant i agra, és diferent també que en tot assimitgi als pares. Los fills que neixen quan venen al món la mare los fa mes són altra gent.	A seed mela is fallin' to be between the black earth. land has had estujada its ventro for these days time, seed hidden. a tree is left there but the mela margins and sour, different also that all assimitgi parents. the sons born when sold to the world mother makes them are most other people.
--	---

Poetry
is an
extreme challenge

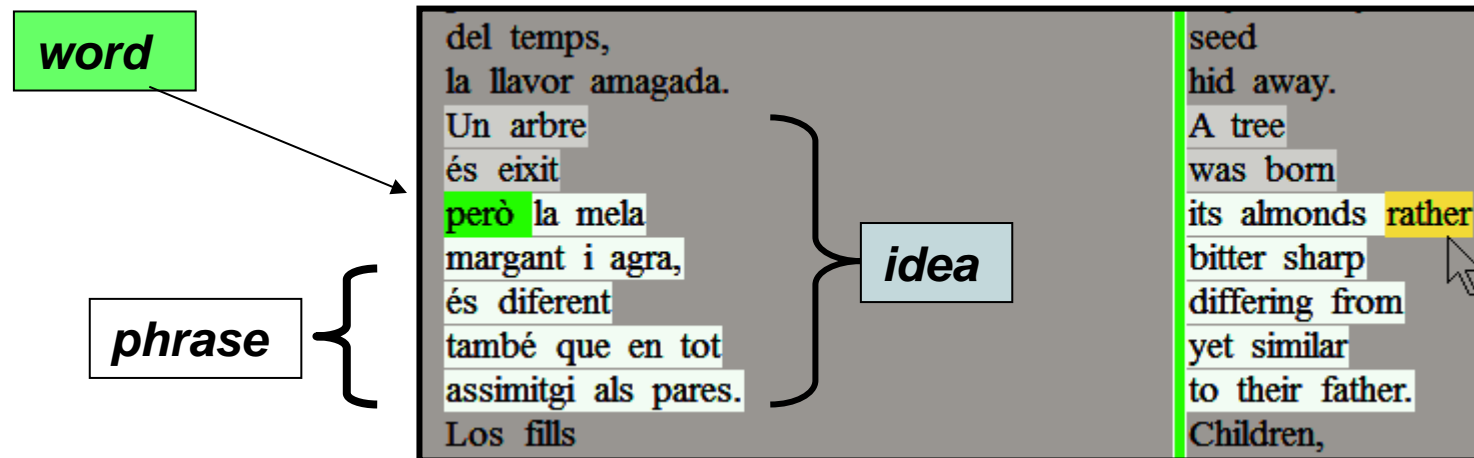
Google *Translate*:
is pitiful when read
aloud as poetry

Echo Chamber
(ear, tongue, **thought**, eye)

HCI and SMT

We are **not** doing statistical *machine* translation (SMT) here

A *human* translates each poem and marks up the equivalences at three different levels: **word**, **phrase**, **idea**.



Spatio-visual cues are thus obtained.

HCI and SMT ?

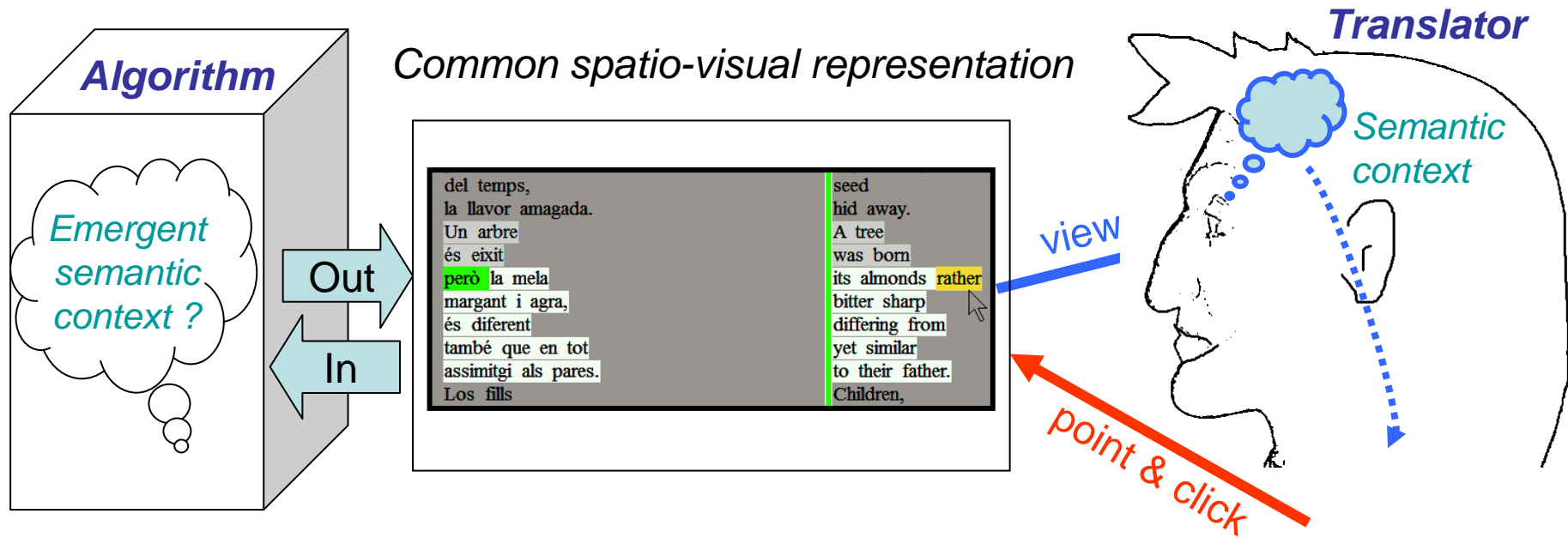
del temps,	seed
la llavor amagada.	hid away.
Un arbre	A tree
és eixit	was born
però la mela	its almonds rather
margant i agra,	bitter sharp
és diferent	differing from
també que en tot	yet similar
assimitgi als pares.	to their father.
Los fills	Children,

Spatio-visual cues are thus available.

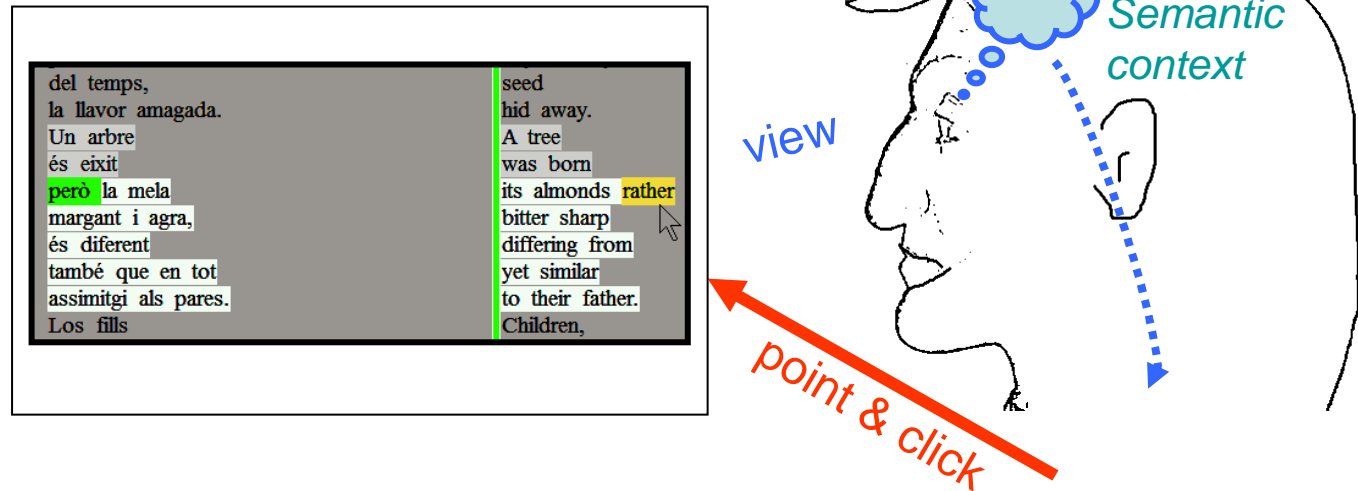
Q: Can such cues provide an *intermediate representation* that can be usefully manipulated by SMT?

Q: Might an algorithm compute *emergent semantic context* from them?

HCI and SMT ?



HCI: design factors



- non-verbal interface – *non-linguistic thinking*
- facilitate *smooth switching of gaze* between parallel texts via the secondary highlighting
- text-selection by *point & click* at words
- *see through cursor*-sprite when on text

interactive alignment: steps

- atomic segmentation {word,phrase,idea}
- restoring state
- *select* by click
- *merge* operation
- *alignment* between parallel texts
- *split* operation
- review

jQuery implementation

Demo (a desktop browser: IE8-9, FF3-10, Opera11, Chrome, Safari)

MLW 2011 demo: Brelstaff, Chessa, Interactive Alignment Of Parallel Text
Gavin Brelstaff and Francesca Chessa, 2011



**Antonino
Mura Ena**

N.Tanda (editor)

[Sardinian-English](#)

(aligned)



**Ольга
Седакова**

F.Chessa

[Russian-Italian](#)

(aligned)



**师涛
(Shi Tao)**

PEN Sardinia

[Chinese-English](#)

(aligned)



**Enrica
Ferreccio**

Fch, Gjb

[Italian-English](#)

(aligned)



**Imp.
Hadrianus**

Fch, Gjb

[Latin-English](#)

(aligned)

**Demo:
selection by click**

Peraula bia - Antonino Mura Ena
Sardinian original

Una peraula bia;
cando est offerta: e nada
ed est sa prima - orta
chi dae bucca bessit,
in s'istante matessi est accabada.
Est cunsumida e morta.

Word Lives - Antonino Mura Ena
English version - gjb 2009

A word lives
when offered up and said
and once issued
from the mouth
it vanishes in that moment:
Consumed and dead.

Peraula bia - Antonino Mura Ena
Sardinian original

Una **peraula** bia;
cando est offerta: e nada
ed est sa prima - orta
chi dae bucca bessit,
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Demo: selection & alignment

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Sardinian original

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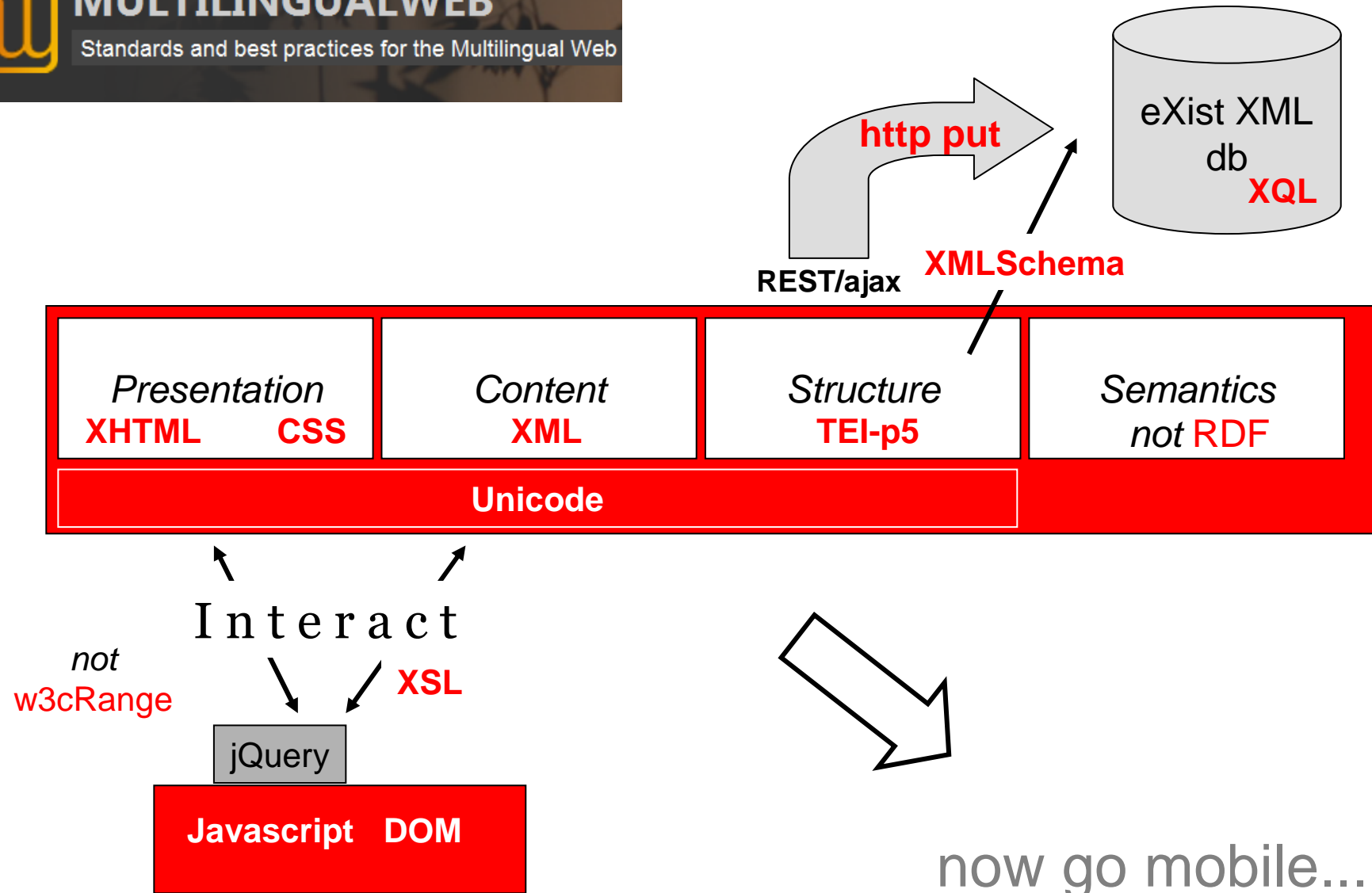
Sardinian original

Una peraula bia;
cando est offerta: e nada
ed est sa prima - orta
chi dae bucca bessit,
in s'istante matessi est accabada.
Est cunsumida e morta.

Word Lives - Antonino Mura Ena

English version - gjb 2009


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when offered up and said
and once issued
from the mouth
it vanishes in that moment:
Consumed and dead.



Text Encoding Initiative – the TEI way

(200)

XCV III.
The Study. *Muséum.*



<p>The Study 1. is a place where a Student, 2. is apart from men, sitteth alone, addicted to his Studies, whilst he readeth Books, 3. which being within his reach, he layeth open upon a Desk 4. and picketh all the best things out of them into his own Manual, 5.</p>	<p><i>Muséum</i> 1. est locus, ubi <i>Studiosus</i>, 2. secretus ab hominibus, solus sedet, <i>Studiis</i> deditus, dum lectitat <i>Libros</i>, 3. quos penes se super <i>Platenum</i> 4, exponit, & ex illis in <i>Manuale</i> 5. suum optima quæq; excerpit,</p>
---	--

```
<div xml:id="e98" xml:lang="en" type="lesson">
  <head>The Study</head>
  <p>
    <seg xml:id="e9801">The Study</seg>
    <seg xml:id="e9802">is a place</seg>
    <seg xml:id="e9803">where a Student,</seg>
    <seg xml:id="e9804">a part from men,</seg>
    <seg xml:id="e9805">sitteth alone,</seg>
    <seg xml:id="e9806">addicted to his Studies,</seg>
    <seg xml:id="e9807">whilst he readeth</seg>
    <seg xml:id="e9808">Books,</seg>
  </p>
</div>
<div xml:id="l98" xml:lang="la" type="lesson">
  <head>Muséum</head>
  <p>
    <seg xml:id="l9801">Museum</seg>
    <seg xml:id="l9802">est locus</seg>
    <seg xml:id="l9803">ubi Studiosus,</seg>
    <seg xml:id="l9804">secretus ab hominibus,</seg>
    <seg xml:id="l9805">solus sedet,</seg>
    <seg xml:id="l9806">Studiis deditus,</seg>
    <seg xml:id="l9807">dum lectitat</seg>
    <seg xml:id="l9808">Libros,</seg>
  </p>
</div>
```

```
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</linkGrp>
```

Conclusion

- *Alghero* html *app* for aligning parallel texts
- generic *multilingual web* application
- text highlights = *spatio-visual* cues
- intermediate representation for semantic context?
- poetry: extreme challenge for SMT
- poetry: a new market?

Follow up:

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aqua mare

33