Some challenges ahead for the Open Language Archives Community

Gary F. Simons

SIL International

Co-coordinator with Steven Bird*,*

Open Language Archives Community

Workshop on Language Archives in the Americas

LDC, University of Pennsylvania, 9 February 2018

Roadmap

1. What we are
2. How we obtain data and how users access it
3. The current challenges we face
   - Increasing coverage, relevance, sustainability
4. The envisioned way forward

Open Language Archives Community

www.language-archives.org

- OLAC is an international partnership of institutions and individuals who are creating a world-wide virtual library of language resources by:
  - Developing consensus on best current practice for the digital archiving of language resources
  - Developing a network of interoperating repositories and services for housing and accessing such resources
- Founded in 2000
  - Now has a catalog of ~335,000 items from 60 archives

Partial list of participants
(> 500 items; see complete list)

- Aboriginal Studies Electronic Data Archive
- Alaska Native Language Archive
- C'ek'aedi Hwnax Ahtna Regional Archive
- Califronia Language Archive
- COllections de COrpus Oraux Numeriques
- Crúbadán Projec
- Ethnologue: Languages of the World
- European Language Resources Association
- Glottolog 2.7
- Graduate Institute of Applied Linguistics
- Kaipuleohone, Univ. of Hawaii
- The Language Archive’s IMDI Protal
- Language Documentation and Conservation
- Linguistic Data Consortium Corpus Catalog
- LINDAT/CLARIN Digital Library, Prague
- LINGUIST List Language Resources
- Living Archive of Aboriginal Languages,
- Online Database of Interlinear Text (ODIN)
- Oxford Text Archive
- PARADISEC
- Pacific Collection, U of Hawai'i Library
- PHOIBLE Online
- Research Papers in Computational Linguistics
- Rosetta Project Library of Human Language
- SIL Language and Culture Archives
- TransNewGuinea.org
- WALS Online, Germany

How do we get data?

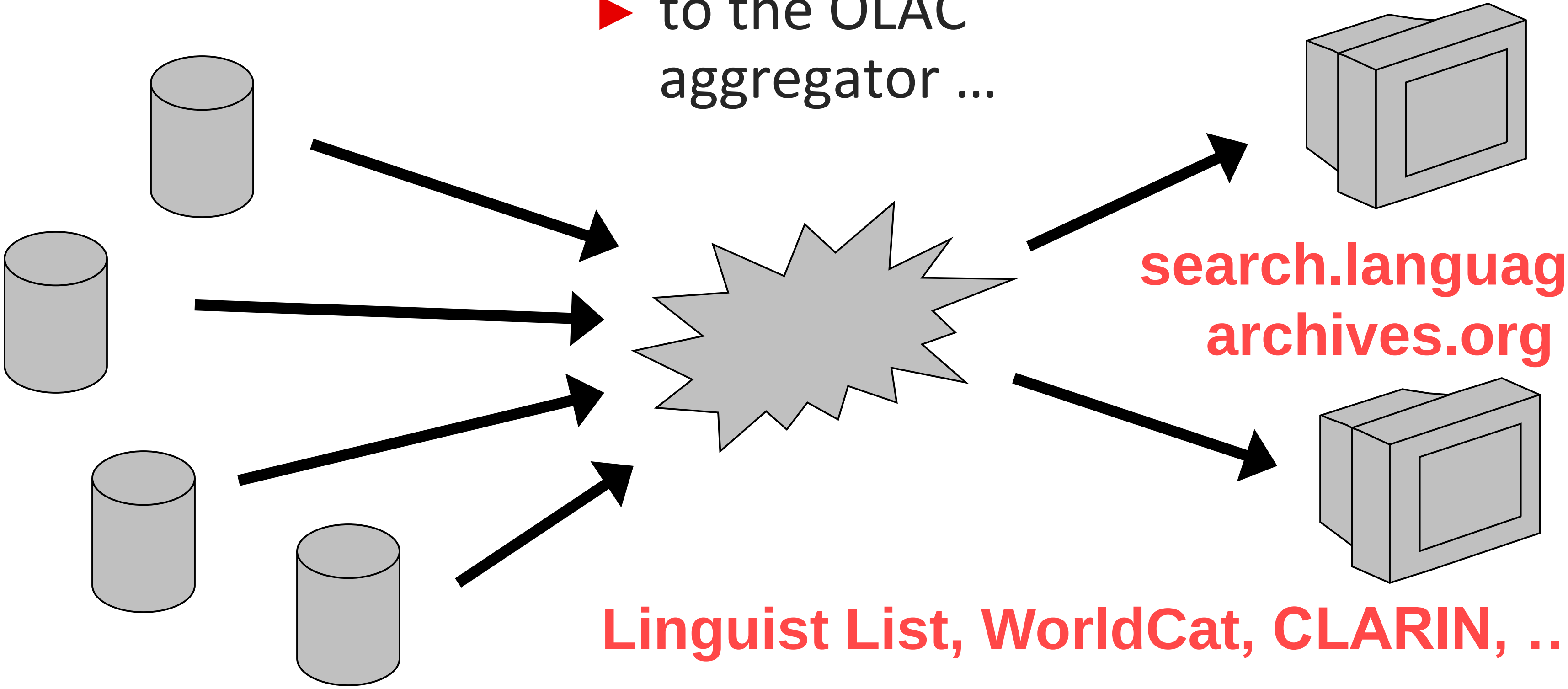
- Participating archives contribute the metadata on their archive holdings using standard formats that have been defined by the community. They are at:
  - http://www.language-archives.org/documents.html
- Including
  - OLAC Metadata — XML format of metadata records
  - OLAC Repositories — Protocol for metadata harvesting and the requirements on conformant repositories
  - OLAC Metadata Usage Guidelines — Explains the available metadata elements and how to use them

A sample metadata record

```
<olac:olac>
    <dc:title>LAPSyD Online page for Cape Verde Creole, Santiago dialect</dc:title>
   <dc:description>This resource contains information about phonological inventories, tones,
        stress and syllabic structures</dc:description>
    <dcterms:modified xsi:type="dcterms:W3CDTF">2012-05-17</dcterms:modified>
    <dc:identifier xsi:type="dcterms:URI">http://www.lapsyd.ddl.ish-lyon.cnrs.fr/
        lapsyd/index.php?data=view&amp;code=692</dc:identifier>
    <dc:type xsi:type="dcterms:DCMIType">Dataset</dc:type>
    <dc:format xsi:type="dcterms:IMT">text/html</dc:format>
    <dc:publisher xsi:type="dcterms:URI">www.lapsyd.ddl.ish-lyon.cnrs.fr</dc:publisher>
    <dcterms:license>http://creativecommons.org/licenses/by-nc-nd/3.0/</dcterms:license>
    <dc:contributor xsi:type="olac:role" olac:code="author">Maddieson, Ian</dc:contributor>
    <dc:subject xsi:type="olac:linguistic-field" olac:code="phonology"/>
    <dc:subject xsi:type="olac:linguistic-field" olac:code="typology"/>
    <dc:type xsi:type="olac:linguistic-type" olac:code="language_description"/>
    <dc:language xsi:type="olac:language" olac:code="eng"/>
    <dc:subject xsi:type="olac:language" olac:code="kea">Cape Verde Creole,
         Santiago dialect</dc:subject>
</olac:olac>
```

An overview

- The 60 archives submit catalogs in a standard form …
- to the OLAC aggregator …
- which supplies information to search services.



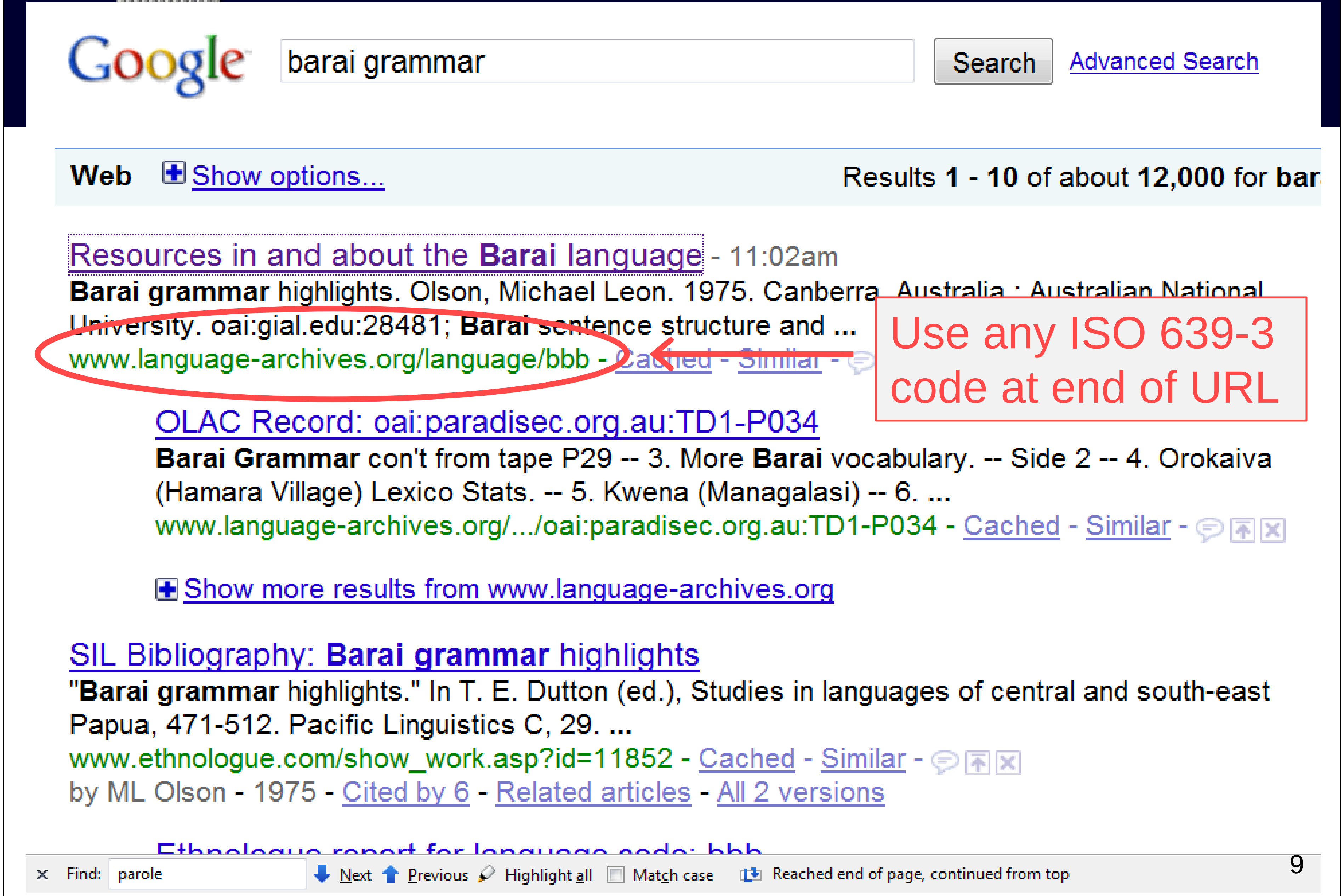
search.language-archives.org

Linguist List, WorldCat, CLARIN, …

How do researchers access the metadata?

- Via Google search (or any web search engine) since OLAC exposes everything as pages that crawlers can access
- Via our faceted search engine which exploits the controlled vocabularies to give search with complete recall and precision
- Via links from language-related sites like Ethnologue
- Via services like WorldCat, CLARIN, Linguist List which use OAI-PMH to harvest the metadata from OLACA
- By consuming the raw XML or RDF/XML directly from OLAC

Via Google search



barai grammar

Search

Advanced Search

Web ✚ Show options...

Results **1** - **10** of about **12,000** for **bar**

Resources in and about the **Barai** language - 11:02am
Barai grammar highlights. Olson, Michael Leon. 1975. Canberra, Australia : Australian National University. oai:gial.edu:28481; **Barai** sentence structure and ...
www.language-archives.org/language/bbb - Cached - Similar -

OLAC Record: oai:paradisec.org.au:TD1-P034
Barai Grammar con't from tape P29 -- 3. More **Barai** vocabulary. -- Side 2 -- 4. Orokaiva (Hamara Village) Lexico Stats. -- 5. Kwena (Managalasi) -- 6. ...
www.language-archives.org/.../oai:paradisec.org.au:TD1-P034 - Cached - Similar -

✚ Show more results from www.language-archives.org

SIL Bibliography: **Barai grammar** highlights
"**Barai grammar** highlights." In T. E. Dutton (ed.), Studies in languages of central and south-east Papua, 471-512. Pacific Linguistics C, 29. ...
www.ethnologue.com/show_work.asp?id=11852 - Cached - Similar -
by ML Olson - 1975 - Cited by 6 - Related articles - All 2 versions

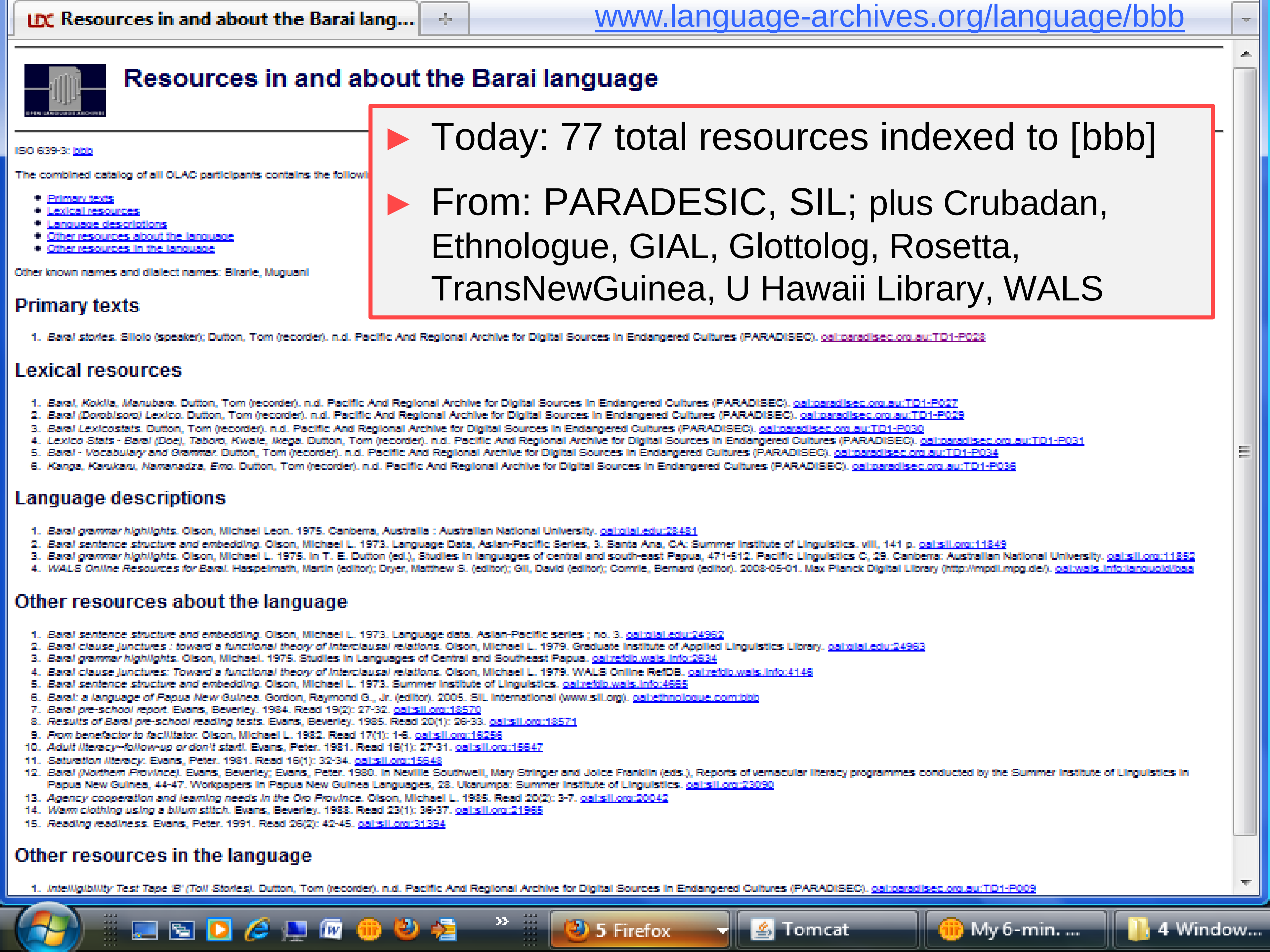
Ethnologue report for language code: bbb

× Find: parole Next Previous Highlight all □ Match case Reached end of page, continued from top

Use any ISO 639-3 code at end of URL

www.language-archives.org/language/bbb

- Today: 77 total resources indexed to [bbb]
- From: PARADESIC, SIL; plus Crubadan, Ethnologue, GIAL, Glottolog, Rosetta, TransNewGuinea, U Hawaii Library, WALS



Resources in and about the Barai language

ISO 639-3: bbb

The combined catalog of all OLAC participants contains the followi

- Primary texts
- Lexical resources
- Language descriptions
- Other resources about the language
- Other resources in the language

Other known names and dialect names: Birarie, Muguani

Primary texts

1. *Barai stories*. Siloio (speaker); Dutton, Tom (recorder). n.d. Pacific And Regional Archive for Digital Sources in Endangered Cultures (PARADISEC). oai:paradisec.org.au:TD1-P028

Lexical resources

1. *Barai, Kokila, Manubara*. Dutton, Tom (recorder). n.d. Pacific And Regional Archive for Digital Sources in Endangered Cultures (PARADISEC). oai:paradisec.org.au:TD1-P027
2. *Barai (Dorobisoro) Lexico*. Dutton, Tom (recorder). n.d. Pacific And Regional Archive for Digital Sources in Endangered Cultures (PARADISEC). oai:paradisec.org.au:TD1-P029
3. *Barai Lexicostats*. Dutton, Tom (recorder). n.d. Pacific And Regional Archive for Digital Sources in Endangered Cultures (PARADISEC). oai:paradisec.org.au:TD1-P030
4. *Lexico Stats - Barai (Doe), Taboro, Kwale, Ikega*. Dutton, Tom (recorder). n.d. Pacific And Regional Archive for Digital Sources in Endangered Cultures (PARADISEC). oai:paradisec.org.au:TD1-P031
5. *Barai - Vocabulary and Grammar*. Dutton, Tom (recorder). n.d. Pacific And Regional Archive for Digital Sources in Endangered Cultures (PARADISEC). oai:paradisec.org.au:TD1-P034
6. *Kanga, Karukaru, Namanadza, Emo*. Dutton, Tom (recorder). n.d. Pacific And Regional Archive for Digital Sources in Endangered Cultures (PARADISEC). oai:paradisec.org.au:TD1-P036

Language descriptions

1. *Barai grammar highlights*. Olson, Michael Leon. 1975. Canberra, Australia : Australian National University. oai:gial.edu:28481
2. *Barai sentence structure and embedding*. Olson, Michael L. 1973. Language Data, Asian-Pacific Series, 3. Santa Ana, CA: Summer Institute of Linguistics. viii, 141 p. oai:sil.org:11849
3. *Barai grammar highlights*. Olson, Michael L. 1975. In T. E. Dutton (ed.), Studies in languages of central and south-east Papua, 471-512. Pacific Linguistics C, 29. Canberra: Australian National University. oai:sil.org:11852
4. *WALS Online Resources for Barai*. Haspelmath, Martin (editor); Dryer, Matthew S. (editor); Gil, David (editor); Comrie, Bernard (editor). 2008-05-01. Max Planck Digital Library (http://mpdl.mpg.de/). oai:wals.info:languoid/bss

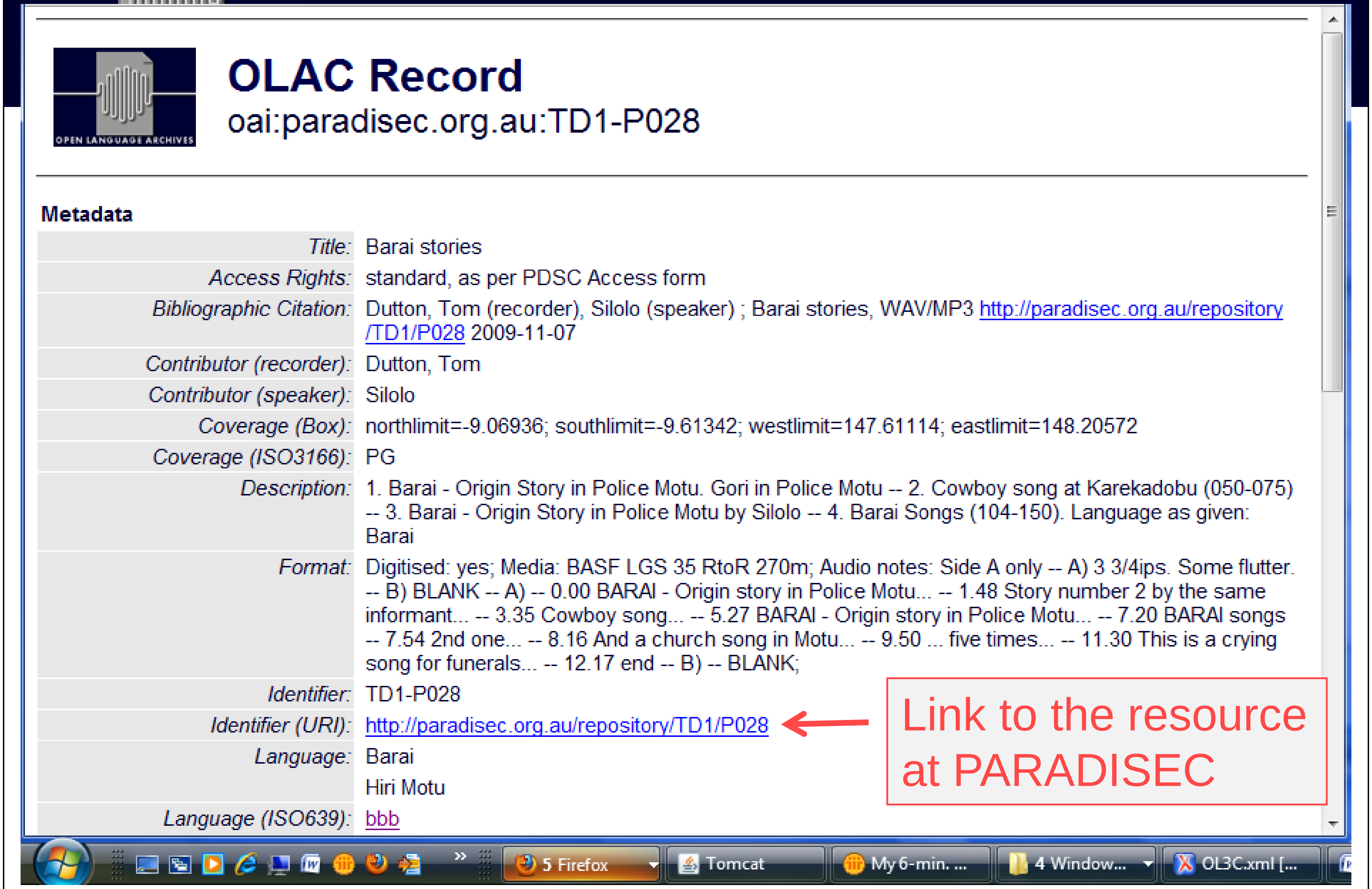
Other resources about the language

1. *Barai sentence structure and embedding*. Olson, Michael L. 1973. Language data. Asian-Pacific series ; no. 3. oai:gial.edu:24962
2. *Barai clause junctures : toward a functional theory of interclausal relations*. Olson, Michael L. 1979. Graduate Institute of Applied Linguistics Library. oai:gial.edu:24963
3. *Barai grammar highlights*. Olson, Michael. 1975. Studies in Languages of Central and Southeast Papua. oai:refdb.wals.info:2634
4. *Barai clause junctures: Toward a functional theory of interclausal relations*. Olson, Michael L. 1979. WALS Online RefDB. oai:refdb.wals.info:4146
5. *Barai sentence structure and embedding*. Olson, Michael L. 1973. Summer Institute of Linguistics. oai:refdb.wals.info:4665
6. *Barai: a language of Papua New Guinea*. Gordon, Raymond G., Jr. (editor). 2005. SIL International (www.sil.org). oai:ethnologue.com:bbb
7. *Barai pre-school report*. Evans, Beverley. 1984. Read 19(2): 27-32. oai:sil.org:18570
8. *Results of Barai pre-school reading tests*. Evans, Beverley. 1985. Read 20(1): 28-33. oai:sil.org:18571
9. *From benefactor to facilitator*. Olson, Michael L. 1982. Read 17(1): 1-6. oai:sil.org:16256
10. *Adult literacy--follow-up or don't start!* Evans, Peter. 1981. Read 16(1): 27-31. oai:sil.org:15847
11. *Saturation literacy*. Evans, Peter. 1981. Read 16(1): 32-34. oai:sil.org:15848
12. *Barai (Northern Province)*. Evans, Beverley; Evans, Peter. 1980. In Neville Southwell, Mary Stringer and Joice Franklin (eds.), Reports of vernacular literacy programmes conducted by the Summer Institute of Linguistics in Papua New Guinea, 44-47. Workpapers in Papua New Guinea Languages, 28. Ukarumpa: Summer Institute of Linguistics. oai:sil.org:23090
13. *Agency cooperation and learning needs in the Oro Province*. Olson, Michael L. 1985. Read 20(2): 3-7. oai:sil.org:20042
14. *Warm clothing using a blum stitch*. Evans, Beverley. 1988. Read 23(1): 36-37. oai:sil.org:21965
15. *Reading readiness*. Evans, Peter. 1991. Read 26(2): 42-46. oai:sil.org:31394

Other resources in the language

1. *Intelligibility Test Tape 'B' (Toll Stories)*. Dutton, Tom (recorder). n.d. Pacific And Regional Archive for Digital Sources in Endangered Cultures (PARADISEC). oai:paradisec.org.au:TD1-P009

Sample catalog record



OLAC Record

oai:paradisec.org.au:TD1-P028

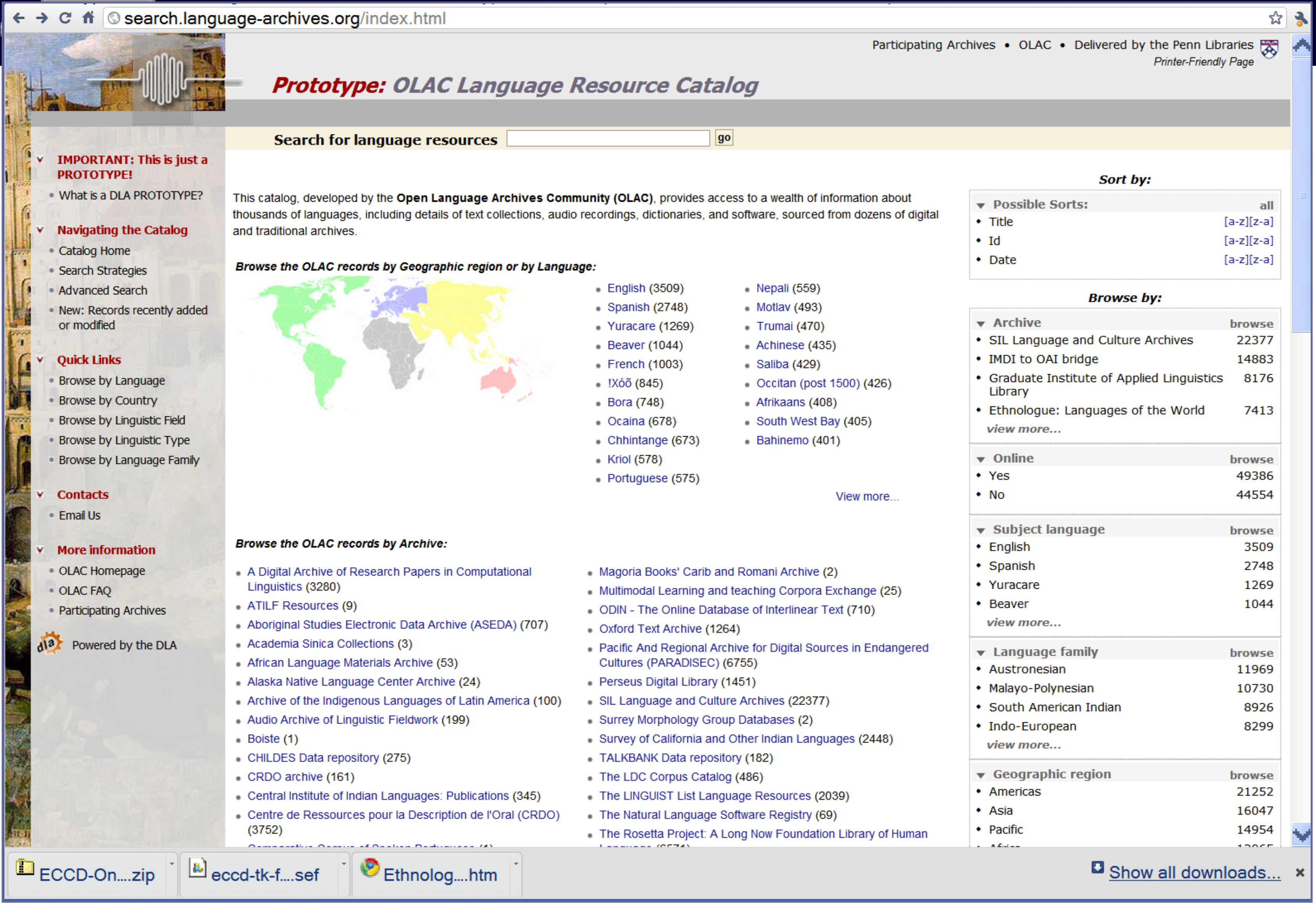
Metadata

Title:	Barai stories
Access Rights:	standard, as per PDSC Access form
Bibliographic Citation:	Dutton, Tom (recorder), Silolo (speaker) ; Barai stories, WAV/MP3 http://paradisec.org.au/repository/TD1/P028 2009-11-07
Contributor (recorder):	Dutton, Tom
Contributor (speaker):	Silolo
Coverage (Box):	northlimit=-9.06936; southlimit=-9.61342; westlimit=147.61114; eastlimit=148.20572
Coverage (ISO3166):	PG
Description:	1. Barai - Origin Story in Police Motu. Gori in Police Motu -- 2. Cowboy song at Karekadobu (050-075) -- 3. Barai - Origin Story in Police Motu by Silolo -- 4. Barai Songs (104-150). Language as given: Barai
Format:	Digitised: yes; Media: BASF LGS 35 RtoR 270m; Audio notes: Side A only -- A) 3 3/4ips. Some flutter. -- B) BLANK -- A) -- 0.00 BARAI - Origin story in Police Motu... -- 1.48 Story number 2 by the same informant... -- 3.35 Cowboy song... -- 5.27 BARAI - Origin story in Police Motu... -- 7.20 BARAI songs -- 7.54 2nd one... -- 8.16 And a church song in Motu... -- 9.50 ... five times... -- 11.30 This is a crying song for funerals... -- 12.17 end -- B) -- BLANK;
Identifier:	TD1-P028
Identifier (URI):	http://paradisec.org.au/repository/TD1/P028
Language:	Barai Hiri Motu
Language (ISO639):	bbb

Link to the resource at PARADISEC

Via our faceted search engine

http://search.language-archives.org



search.language-archives.org/index.html

Participating Archives • OLAC • Delivered by the Penn Libraries

Printer-Friendly Page

Prototype: OLAC Language Resource Catalog

Search for language resources go

- **IMPORTANT: This is just a PROTOTYPE!**
  - What is a DLA PROTOTYPE?
- **Navigating the Catalog**
  - Catalog Home
  - Search Strategies
  - Advanced Search
  - New: Records recently added or modified
- **Quick Links**
  - Browse by Language
  - Browse by Country
  - Browse by Linguistic Field
  - Browse by Linguistic Type
  - Browse by Language Family
- **Contacts**
  - Email Us
- **More information**
  - OLAC Homepage
  - OLAC FAQ
  - Participating Archives

Powered by the DLA

This catalog, developed by the **Open Language Archives Community (OLAC)**, provides access to a wealth of information about thousands of languages, including details of text collections, audio recordings, dictionaries, and software, sourced from dozens of digital and traditional archives.

Browse the OLAC records by Geographic region or by Language:

- English (3509)
- Spanish (2748)
- Yuracare (1269)
- Beaver (1044)
- French (1003)
- !Xóõ (845)
- Bora (748)
- Ocaina (678)
- Chhintange (673)
- Kriol (578)
- Portuguese (575)
- Nepali (559)
- Motlav (493)
- Trumai (470)
- Achinese (435)
- Saliba (429)
- Occitan (post 1500) (426)
- Afrikaans (408)
- South West Bay (405)
- Bahinemo (401)

View more...

Browse the OLAC records by Archive:

- A Digital Archive of Research Papers in Computational Linguistics (3280)
- ATILF Resources (9)
- Aboriginal Studies Electronic Data Archive (ASEDA) (707)
- Academia Sinica Collections (3)
- African Language Materials Archive (53)
- Alaska Native Language Center Archive (24)
- Archive of the Indigenous Languages of Latin America (100)
- Audio Archive of Linguistic Fieldwork (199)
- Boiste (1)
- CHILDES Data repository (275)
- CRDO archive (161)
- Central Institute of Indian Languages: Publications (345)
- Centre de Ressources pour la Description de l'Oral (CRDO) (3752)
- Magoria Books' Carib and Romani Archive (2)
- Multimodal Learning and teaching Corpora Exchange (25)
- ODIN - The Online Database of Interlinear Text (710)
- Oxford Text Archive (1264)
- Pacific And Regional Archive for Digital Sources in Endangered Cultures (PARADISEC) (6755)
- Perseus Digital Library (1451)
- SIL Language and Culture Archives (22377)
- Surrey Morphology Group Databases (2)
- Survey of California and Other Indian Languages (2448)
- TALKBANK Data repository (182)
- The LDC Corpus Catalog (486)
- The LINGUIST List Language Resources (2039)
- The Natural Language Software Registry (69)
- The Rosetta Project: A Long Now Foundation Library of Human

Sort by:

Possible Sorts:	all
Title	[a-z][z-a]
Id	[a-z][z-a]
Date	[a-z][z-a]

Browse by:

Archive	**browse**
SIL Language and Culture Archives	22377
IMDI to OAI bridge	14883
Graduate Institute of Applied Linguistics Library	8176
Ethnologue: Languages of the World	7413
view more...	

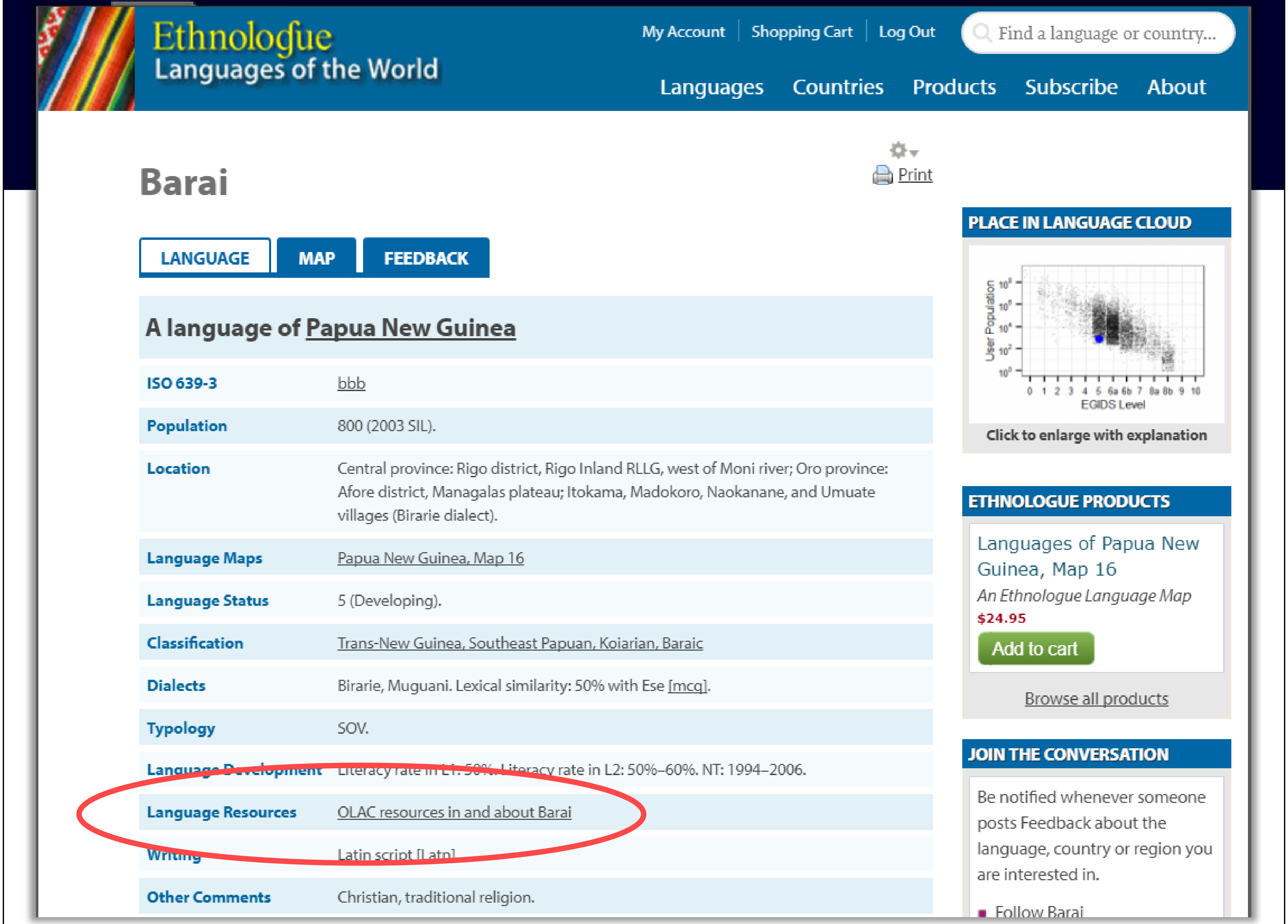
Online	**browse**
Yes	49386
No	44554

Subject language	**browse**
English	3509
Spanish	2748
Yuracare	1269
Beaver	1044
view more...	

Language family	**browse**
Austronesian	11969
Malayo-Polynesian	10730
South American Indian	8926
Indo-European	8299
view more...	

Geographic region	**browse**
Americas	21252
Asia	16047
Pacific	14954

ECCD-On....zip eccd-tk-f....sef Ethnolog....htm Show all downloads...



Barai

A language of Papua New Guinea

ISO 639-3	bbb
Population	800 (2003 SIL).
Location	Central province: Rigo district, Rigo Inland RLLG, west of Moni river; Oro province: Afore district, Managalas plateau; Itokama, Madokoro, Naokanane, and Umuate villages (Birarie dialect).
Language Maps	Papua New Guinea, Map 16
Language Status	5 (Developing).
Classification	Trans-New Guinea, Southeast Papuan, Koiarian, Baraic
Dialects	Birarie, Muguani. Lexical similarity: 50% with Ese [mcq].
Typology	SOV.
Language Development	Literacy rate in L1: 50%. Literacy rate in L2: 50%–60%. NT: 1994–2006.
Language Resources	OLAC resources in and about Barai
Writing	Latin script [Latn].
Other Comments	Christian, traditional religion.

PLACE IN LANGUAGE CLOUD

Click to enlarge with explanation

ETHNOLOGUE PRODUCTS

Languages of Papua New Guinea, Map 16

An Ethnologue Language Map

$24.95

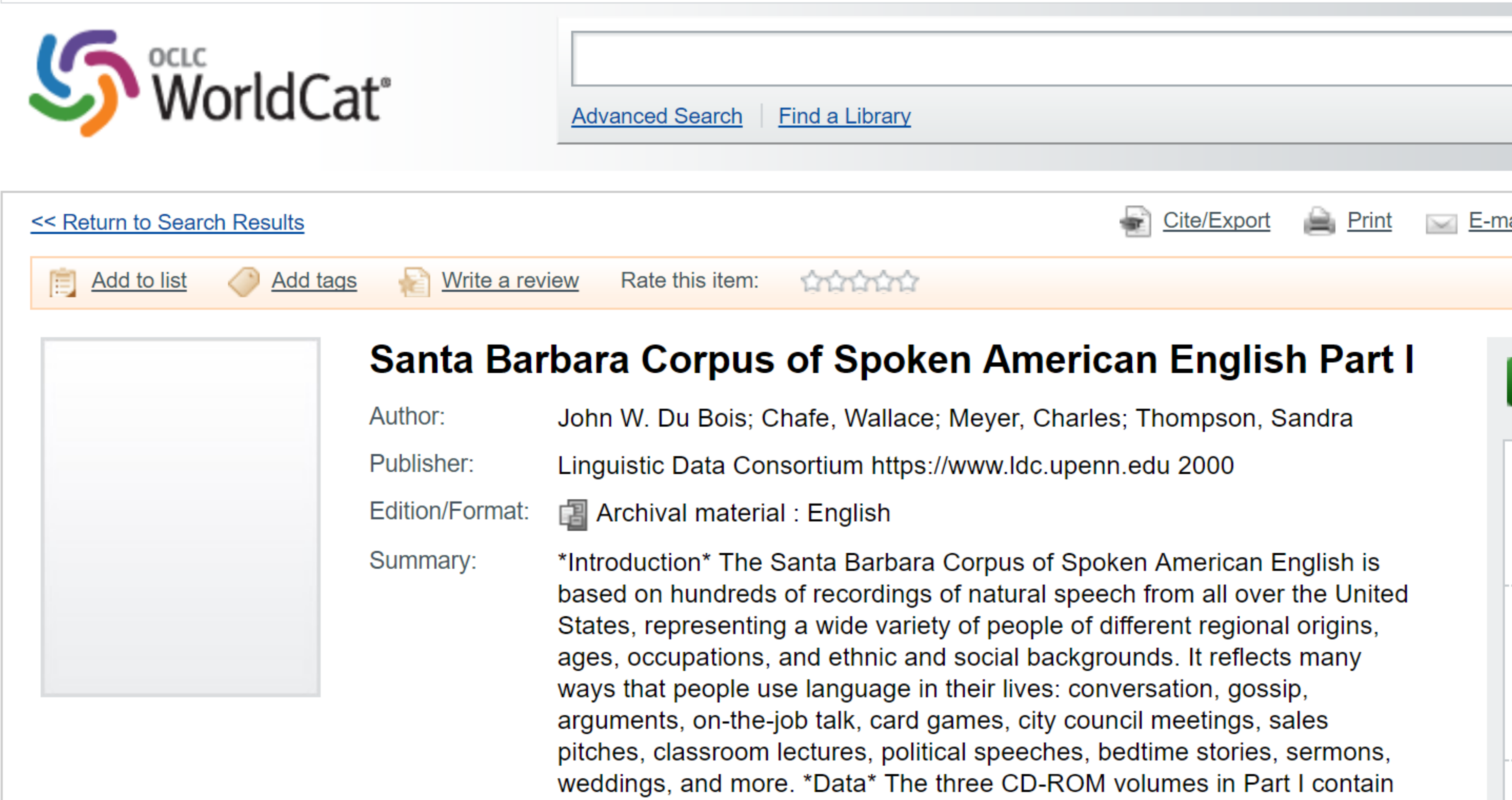
Browse all products

JOIN THE CONVERSATION

Be notified whenever someone posts Feedback about the language, country or region you are interested in.

- Follow Barai

Harvested via OAI-PMH from OLAC Aggregator



Santa Barbara Corpus of Spoken American English Part I

Author: John W. Du Bois; Chafe, Wallace; Meyer, Charles; Thompson, Sandra

Publisher: Linguistic Data Consortium https://www.ldc.upenn.edu 2000

Edition/Format: Archival material : English

Summary: *Introduction* The Santa Barbara Corpus of Spoken American English is based on hundreds of recordings of natural speech from all over the United States, representing a wide variety of people of different regional origins, ages, occupations, and ethnic and social backgrounds. It reflects many ways that people use language in their lives: conversation, gossip, arguments, on-the-job talk, card games, city council meetings, sales pitches, classroom lectures, political speeches, bedtime stories, sermons, weddings, and more. *Data* The three CD-ROM volumes in Part I contain

Ways of consuming OLAC metadata

- Full or incremental harvest at OLACA (via OAI-PMH)
  - http://www.language-archives.org/cgi-bin/olaca3.pl
- RDF/XML of any metadata record is available by HTTP content negotiation *(Accept: application/rdf+xml)*
  - E.g., http://www.language-archives.org/item/oai:paradisec.org.au:AA1-001
- Nightly gzipped dumps of the entire metadata catalog
  - OLAC XML: http://www.language-archives.org/xmldump/ListRecords.xml.gz
  - RDF/XML: http://www.language-archives.org/static/olac-datahub.rdf.gz

Increasing coverage

- There are significant collections not yet participating, both archives and special collections within libraries
  - We have observed that implementing a data provider for our idiosyncratic metadata format is too high a bar
- Some archives don’t yet expose the actual resources
  - They expose only a landing page per language, and not the individual corpora or resources
- Linguists need to be able to report resources they discover in places that would never join OLAC

OPEN LANGUAGE ARCHIVES

Increasing relevance

- Many archives need to improve metadata quality so as to improve the discoverability of their holdings
  - 24 out of 60 archives score below 70% on our metric
- Huge gaps in our Linguistic Data Type vocabulary
  - Current set of 3 values covers 60% of resources; we are lacking type labels relevant to the rest
- Subcommunities could make it relevant for themselves
  - *E.g.,* <dc:type>Sociolinguistic corpus</dc:type>
  - *E.g., for ELAN:* <dc:format>text/x-eaf+xml</dc:format>

OPEN LANGUAGE ARCHIVES

Increasing sustainability

- We have a sustainability problem at the level of participating archives keeping up with change
  - Today, 20 archives show as failing to harvest
  - An overlapping set of 21 have not updated their catalog within the last 5 years
- We have a sustainability problem at the level of our central infrastructure
  - It is showing its age (> 15 years)
  - Depends on volunteerism and contributions

A deeper issue

- OLAC's metadata format plus infrastructure is an idiosyncratic solution developed and maintained within the linguistics community
    - But our community is not particularly well-equipped to implement and manage information systems.
- A more robust solution would be to steer OLAC and the cataloging of language resources into the library and information systems mainstream.

OPEN LANGUAGE ARCHIVES

Envisioned way forward

- We are monitoring trends in the library community
  - From standardized markup formats (like XML schemas) to Linked Data (RDF) and Metadata Application Profiles
  - We’ve mapped our metadata to Linked Data and envision a Language Resource Type vocab to anchor a profile
- An ideal future
  - We would move from having an idiosyncratic community-specific infrastructure to a mainstream infrastructure that interoperates with the global Web of Data
  - We would influence mainstream cataloging practices to embrace ISO 639-3 and a Language Resource Type vocab

Conclusion

- OLAC has a functioning infrastructure that allows our community to index and discover language resources
  - See OLAC Implementers' FAQ to learn how to join
- But we are being held back by having an idiosyncratic infrastructure
  - A more promising future would be to move into the mainstream infrastructure of the digital library community