

Naive Archives: The Coeur d'Alene Example

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This article reports on a project designed to determine if two motivated scholars, with no background in web creation, could create a meaningful digital archive within a period of six weeks. In addition, if they could do it with non-proprietary software and free online instruction. The motivation for the project was to make available to scholars and community members a wealth of material and resources that would not otherwise be available, or not easily accessible, and to demonstrate that viable resources could be created in a very short time by naive scholars such as the creators of the Coeur d'Alene Archive. The article presents an overview of the Coeur d'Alene Archive with its searchable root dictionary, searchable affix list, searchable stem list, over 1,200 pages of unpublished legacy materials, grammatical sketch, among other resources.

1. INTRODUCTION. During the past ten years much work and funding has been invested in projects that develop web-based archives for language resources. One such project is the *Open Language Archives Community* (OLAC). Similar work has been undertaken by the *Pacific And Regional Archive for Digital Sources in Endangered Culture* (PARADISEC). Another project has been the *Electronic Metastructure for Endangered Languages Data* (EMELD). These projects have focused on the development of complex data sets to make resources easily searchable and locatable. In the same vein, more traditional archives, such as those housed at the *National Anthropological Archives* at the Smithsonian have focused efforts on creating microfilm copies of works and placing the catalogs online.

One rather awkward complication with projects like OLAC and EMELD is that they require special knowledge that most linguists and language community members do not have—knowledge about various digital approaches to ontology creation, meta-annotation schemes, e.g. SGML and XML. Further, the websites themselves are not always intuitively searchable or usable to the naive visitor.

One solution might be to build on the successes of these early works. A website might be constructed which allows researchers and communities to simply upload PDF images, text, audio, and/or video files for storage, in a similar fashion as the *Archive of the Indigenous Languages of Latin America*, only much larger in scope. We believe this would be successful because it would employ technology, software, and skills that most linguists and communities already possess. Finally, the materials at the website would be available to researchers at projects like EMELD and OLAC, as well as others, who want to develop materials to make the semantic web a reality, and crucially have the skills to do so.

Our solution, while rather simple, could yield significant results because it requires very little of the linguist or community member. However, until such a site is created, *naive archives* such as the *Coeur d'Alene Archive* (CA) provide an excellent example and starting point for what can be done to make legacy materials and other documentation readily available for maintenance or revitalization efforts, the larger linguistic community, and projects like EMELD and OLAC.

The CA was created by two volunteers with no funding and no prior web creating experience. The architects of the website did however have a wealth of legacy material and were highly motivated. We believe this is the situation many linguists and community members find themselves in. Knowledge to create the website was gained via free online sources at *w3schools.com*, and the entire archive was created in less than six weeks using very basic tools: HTML, Java Script, CSS, and PHP¹ (all learned during the six week period). We believe this process can be repeated by most linguists and community members. The archive contains over 1,200 pages of unpublished manuscripts and field notes, searchable online root dictionary (1,300 roots, 7960 “words”), online stem (1,300) and affix (200) list, grammatical sketch, guide to orthographic conventions, links to other resources relevant to Coeur d'Alene, among other elements. In short, until a global repository is created, a simple alternative is naive language specific archives such as the CA.

In the remainder of this paper we present the CA and the resources it makes available. Before moving to the archive a quick note regarding the term “naive” and copyright. We refer to the archive as naive because the creators were naive to web and archive creation, and we believe that many of the users may be naive to uses of such web resources. In regards to copyright, we refer the readers to Newman 2007. For our needs, we checked copyright renewal at Stanford's Copyright Renewal Database², requested permissions from publishers and authors, and communicated directly with the Coeur d'Alene Language Program. We found all publishers to be quite helpful and cooperative and

1 PHP was used to create the search mechanisms used on the website. An alternative to creating a search mechanism is to simply use the webbrowser's search mechanism or to download one of the free search mechanisms available online and integrate it into the website.

2 As of 11 October 2009 the Stanford site could be accessed at <http://collections.stanford.edu/copyrightrenewals/bin/page?forward=home>.

author's not only helpful but quite supportive of our goals.

2. THE COEUR D'ALENE ARCHIVE³. The preamble to the CA states:

The archive contains the Coeur d'Alene Root Dictionary (Lyon and Greene-Wood 2007) with nearly 1,400 roots and about 7690 "word" forms, Reichard's 1939 Stem List with some 1,300 stems, a list of roughly 200 affixes, and over 1,200 pages of Coeur d'Alene texts (copies of Reichard's 1927-1929 field notes and typed manuscripts) and English translations from Reichard 1947. The archive also includes a link to Ivy Doak's grammatical sketch of Coeur d'Alene. A list of the Coeur d'Alene phonemes, a comparison of orthographies (Nicodemus, Reichard, and Salishan), and a guide to pronunciation are also included.

The Coeur d'Alene archive was created, and is maintained, **AUTHOR(S) NAME HERE**. The website was created without any prior web design/building knowledge using w3schools.com free tutorials over a period of six weeks in the summer of 2009. Following the simple HTML, Java script, and CSS lessons at the site, anyone can create a similar archive. The search mechanisms were a bit more complicated and require PHP, which can also be learned at the w3 schools website.

2.1 BACKGROUND. Coeur d'Alene is a Southern Interior Salishan (USA/Idaho) language no longer learned by children. The first extensive documentation of the language by a linguist was the work of Gladys Reichard. Reichard worked on the language, and Salish in general, from the late 1920's through the 1950s (see Reichard 1938, 1939, 1947, 1958-1960)⁴. The archive includes over 1,200 pages of Reichard's unpublished field notes and typed manuscripts. In addition, the archive includes a searchable version of her 1939 Stem List and a PDF version of the original article that can be downloaded and a PNG version that can be opened in the web browser. The archive also includes a searchable affix list containing roughly 200 affixes taken from her 1938 grammar of Coeur d'Alene. The affixes are linked to their respective entries in the online version of Reichard's grammar, which is available at the Internet Archive.

Reichard worked with a small number of informants including Lawrence Nicodemus. Nicodemus worked very closely with Reichard, and most scholars working on the language up until his death in 2004. Nicodemus created the tribal orthography and a Coeur d'Alene to English dictionary and English to Coeur d'Alene dictionary (Nicodemus 1975). Nicodemus also worked in the development of pedagogical materials (see for example Nicodemus, Hess, Wagner, Matt, Sobbing, and Allen 2000). The archive contains a searchable version of Lyon and Greene-Wood's (2007) Nicodemus dictionary in root form.⁵ In the future we hope to add pedagogical material as well as a number of other resources such as over 1,000 of Nicodemus' file slips, a biographical sketch of Reichard and Nicodemus.

These materials, Reichard's field notes, affix list and stem list, and Nicodemus' dictionary in root format (Lyon and Greene-Wood 2007) constitute what the creators of the archive hoped to make available online within the six week time frame. Six weeks was chosen as the time frame because that was roughly the period of time in a typical summer recess between Spring and Fall semesters at most

3 Images of the archive are included in the discussion that follows, however, we suggest opening the archive at http://academic.uprm.edu/~sbischoff/crd_archive/start1.html and opening the pages as they are discussed.

4 For an excellent account of Reichard's career and work on Salish see Faulk 1997, 1999..

5 For an account of Nicodemus' life and role as language scholar see Brinkman 2003.

academic institutions. We recognized that summer breaks are bit longer, but chose six weeks as a time we thought many could commit to, at least part time, as was our case.

2.2 THE ARCHIVE. The start page of the archive is divided into two frames. On the left is the name of the archive and copyright in the upper corner. Below are links to the various pages within the archive. The second frame provides information about the archive, links to various resources in the archive, brief information regarding how the archive was constructed, and information regarding other resources available online about Coeur d'Alene. Initially, we thought we would have to scan a good deal of material (beyond the 1,200 pages of field notes and manuscripts) to be included in the archive. However, a simple search on the internet for the various material we considered scanning turned up the fact that much work had already been done. For example we discovered *The Handbook of American Indian Languages v. 3* (Boas 1938) which is where Reichard's *Coeur d'Alene* grammar appears, was already available online at the Internet Archive.⁶ This saved us a good deal of time, and allowed us to simply link our archive to the existing work. In addition, as will be seen below, it allowed us to link each affix entry on the site to its respective page in Reichard's original work at the Internet Archive.

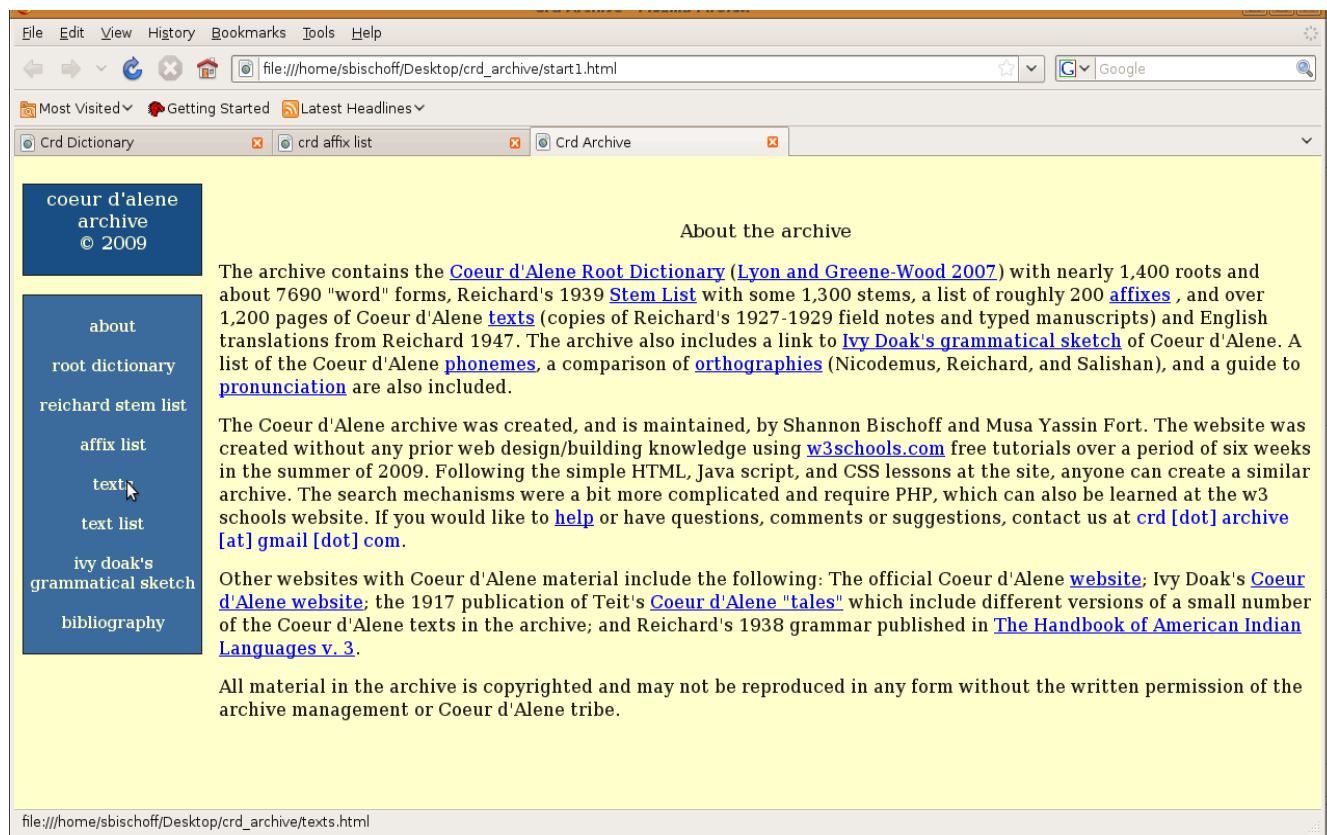


Figure 1:CA Start Page⁷

Included is also a call for suggestions, comments and other thoughts regarding the archive. The archive is open in that there is no login or password protection. At this time we find no need for such measures. However, such mechanisms could easily be created with Java script. We could foresee a time when perhaps the community would like the archive password protected or at least sections protected. A simple measure that can be used to protect sensitive cultural material. The page also includes a link

⁶ http://www.archive.org/stream/rosettaproject_tqw_morsyn-2#page/n529/mode/2up

⁷ http://academic.uprm.edu/~sbischoff/crd_archive/start1.html

to Ivy Doak's website which provides morpho-phonological and morpho-syntactic analysis of a number of Reichard's texts and other information about the language such as an excellent grammatical sketch. We initially had our own simplified sketch on the site but felt a link to Doak's would be better as the sketch was far superior. Simply adding links to existing material, allowed us to focus our energies on the *root dictionary* and *texts*. It was only after those pages were complete that we realized we had time to include Reichard's *stem list* (Reichard 1939) and an *affix list* of our own creation taken from Reichard's 1938 grammar. Coeur d'Alene is a polysynthetic language which makes an affix list quite desirable.

Finally, we included a list of orthographic conventions and comparisons seen in Figure 2. As noted above the tribal community uses Nicodemus' orthography and Lyon and Greene-Wood use what they refer to as the *Salish* orthography. In addition Reichard used Boas' orthography. In terms of the archive, arriving at orthographic conventions was perhaps the most challenging step. In order to move forward and not get stuck in the issue we took a simple way out. We used Lyon and Greene-Wood's transliteration of Nicodemus' orthography to the Salish orthography. This allowed us a method of going from Nicodemus' orthography to Salishan. We used Barthmeir's 1990 conversions for going from the Salish orthography to Reichard's orthography. This allowed us to put the Reichard affixes (originally in Boas' orthography), for example, in both the Salish and Nicodemus orthographies and allow the user to confer the original source in Reichard's own orthography in the PNG or PDF file. The problem with this method is that later scholars such Sloat (1966, 1968) and Doak (personal communication) have noted that the vowel alternations that Reichard used can be analyzed as representing a number of different underlying forms. Such underlying vowel alternations may not be captured in our approach. However, our approach makes available the original source and material in an accessible format for consultation. In the future we hope to add an orthographic converter using finite state technology.

The following conventions come from Reichard's 1938 grammar and Nicodemus' 1975 dictionary.

Orthographic Conversions

Reichard Orthography	Nicodemus Orthography	Salishan Orthography
r ^w , r' ^w	(w , '(w	ɺ ^w , ɺ' ^w
q'	q'w	q' ^w
x, x ^w	qh, qhw	x̄, x̄ ^w
k ^w , k' ^w	kw, k'w	k ^w , k' ^w
x ^w	khw	x ^w
tc, tc'	ch, ch'	č̣, č̣'
ts, ts'	ts, ts'	c, c'
R, R'	(, '(ɺ, ɺ'
q ^w	qw	q ^w
q'	q'	q'
no form	kh	x
gw	gw	g ^w
c	sh	ṣ̌
t'	t'	t'

Figure 2: *Orthographic conversions*

The root dictionary is divided into three frames. The top frame includes copyright information, an alphabetic list of orthographic characters linked to sections of the dictionary for browsing, and a search box that allows for searching the dictionary in the Salish or Nicodemus orthography or for the English gloss. This search mechanism, like others throughout the archive was created with PHP and Java script. Special characters appear below the search box to be used by the user without a special keyboard with the relevant characters (characters such as š, ʷ, č, ʔ, x, ł, ε, ə, á, é, í, ó, and ú). This function was created using Java script. The lower frame is divided into two frames. To the left is a frame containing a number of links: *search*, *browse*, and *archive*. The *search* link explains how the search box at the top can be best used. The *browse* link brings up the dictionary itself (Figure 3) and the *archive* link returns the user to the main page of the Coeur d'Alene Archive.

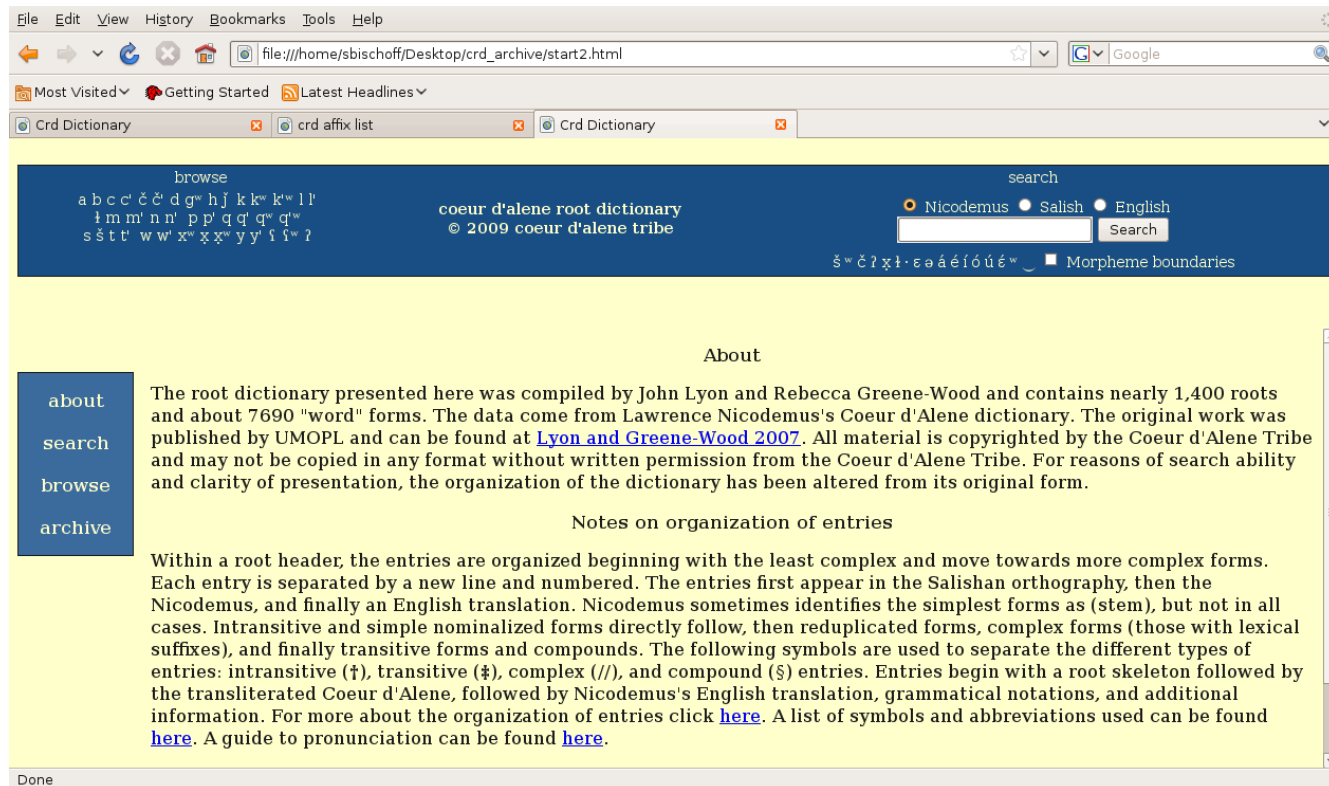


Figure 3: *Root Dictionary Start Page*⁸

The right frame provides information about the dictionary and a link to the publisher's website where the original paper copy can be ordered in book format. It also includes a brief discussion of how the entries are organized and a further link to greater detail regarding the organization of entries. Finally, a link to Ivy Doak's grammatical sketch is provided.

In Figure 4 we see the top frame remains the same and the lower left frame, with the links, also remains the same. The difference is that the dictionary has opened in the lower right frame. It can also be noted that it is possible to scroll through the dictionary using the scroll bar on the right edge of the web page. This is all the result of clicking the *browse* link in the link panel on the left. The dictionary itself is organized by roots indicated by the root symbol “√” followed by the root. Under each root are the relevant entries that contain the root. Each entry is numbered for ease of reference. The entries begin with an entry in the Salish orthography in a column on the left, then in a center column is the form in Nicodemus' orthography and finally the English gloss appears. This was done using HTML

⁸ http://academic.uprm.edu/~sbischoff/crd_archive/start2.html

tables. This is not how the forms appear in Lyon and Greene-Wood's (2007) original work. The original work was modified for ease of presentation, use, and searchability on the web.



Figure 4: Root Dictionary “Browse”

One useful feature of the Root Dictionary in web format is the ease of searchability. As noted, we created our own search mechanism with PHP. However, a number of such mechanisms are available online for free and can be easily embedded into a working site for similar effect. In addition, most web browsers allow searching of web pages with *Ctrl f*. Our search mechanism locates all forms and returns them highlighted in their entry format, with root, as illustrated in Figure 5, where a search for the lexical affix =*ilt* 'offspring, child' has been conducted. The search mechanism, in essence, turns the dictionary into a searchable corpus that can be used for data analysis or pedagogical purposes.

Like the root dictionary start page (Figure 2), the *affix list* start page is divided into three frames: a top frame with copyright information, a search box, and a browse section; a lower left frame with a links section; and a lower right frame with information about the affixes and organization of the entries. Continuity in the design of each section of the archive was deliberate and employed for ease of use. Selecting the *browse* link in the lower left frame of the affix list page brings up the following page found in Figure 6. Again, for consistency throughout the archive, the entries to the far left are in the Salish orthography, the Nicodemus orthography is used in the center column and the English gloss appears in the far right column. In addition to the English gloss a page number and section number (in parentheses) are included and serve as a link to the page and subsection of the form in the original work. For example the first entry is glossed 'first, before' and includes a link to page 599 subsection 420 of Reichard's original grammar posted at the Internet Archive. The link opens in a new tab. Figure 7 provides an image of the relevant entry brought up after clicking the link.

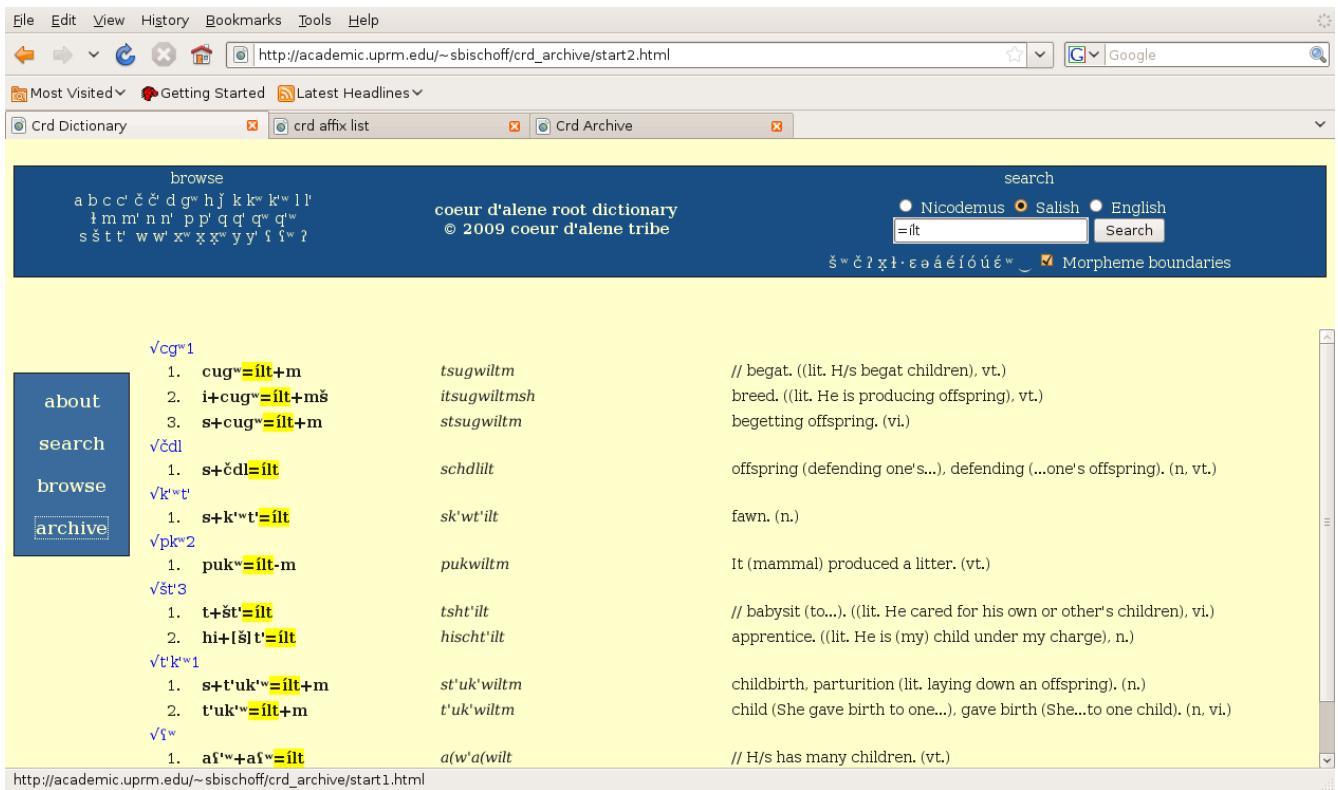


Figure 5: Dictionary Search



Figure 6: Affix List "Browse"

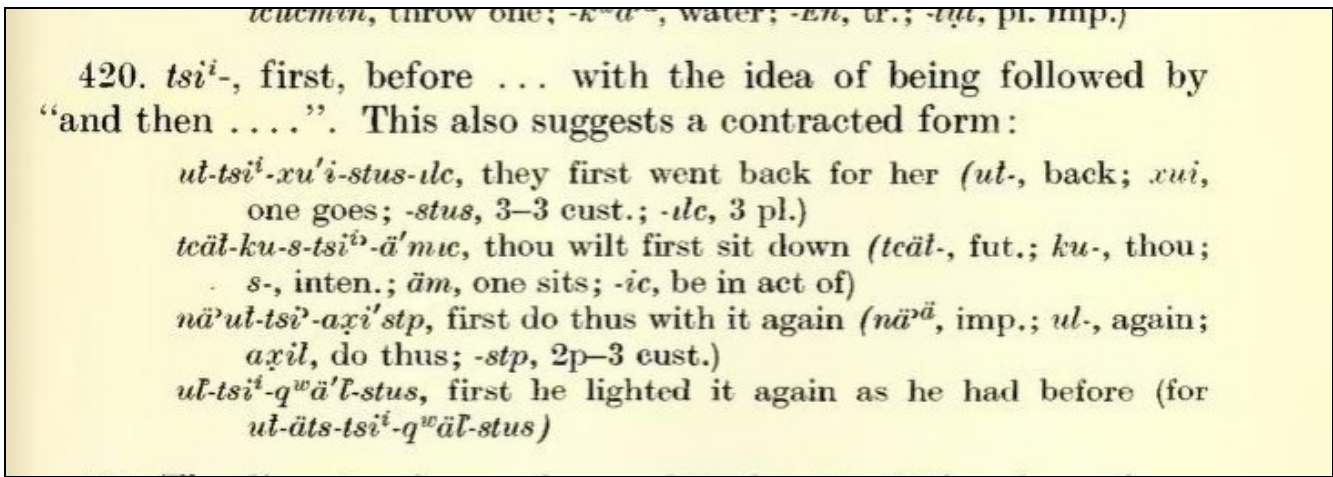


Figure 7: Page 559 Subsection 420 of Reichard's Coeur d'Alene Grammar

Reichard's 1939 Stem List was organized in the same fashion as the root dictionary and the affix list. The layout and search mechanism followed exactly that of the dictionary and affix list with the original article available as a downloadable PDF for reference or a PNG file that opened within the website.

The Reichard manuscripts or *Texts* were organized in a different manner. Selecting the *Text* link on the main archive page brings up the page shown in Figure 8.

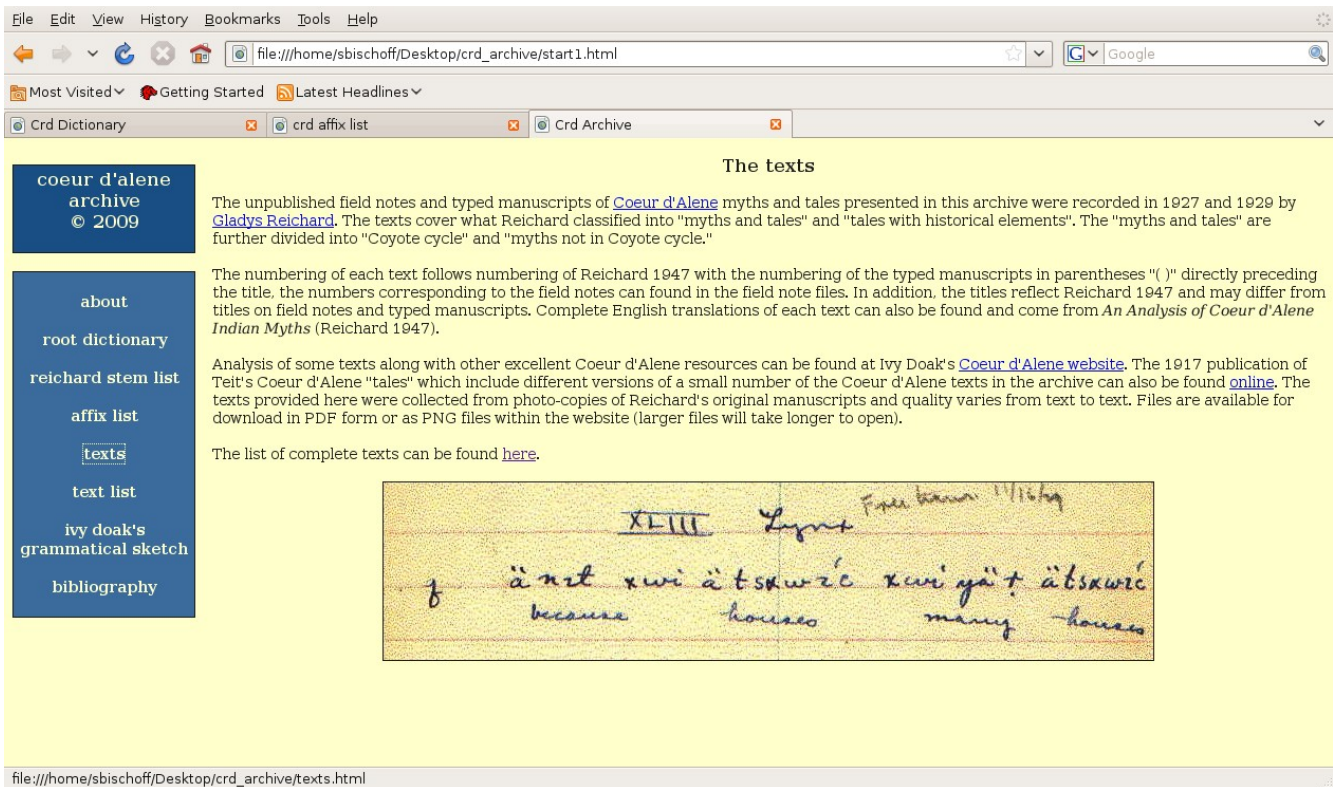


Figure 8: The Texts

In Figure 8 it can be seen that there are two frames. One to the left which includes the same list of links as the main archive page (in fact the text pages simply opened in the right frame). The right frame

contains information about the texts, links to Doak's website with analysis of a small number of the texts, and a link to Tiet's 1917 publication of a small number of narratives collected by earlier informants that are similar to those collected by Reichard. Tiet's 1917 publication was found at the Internet Archive as well.

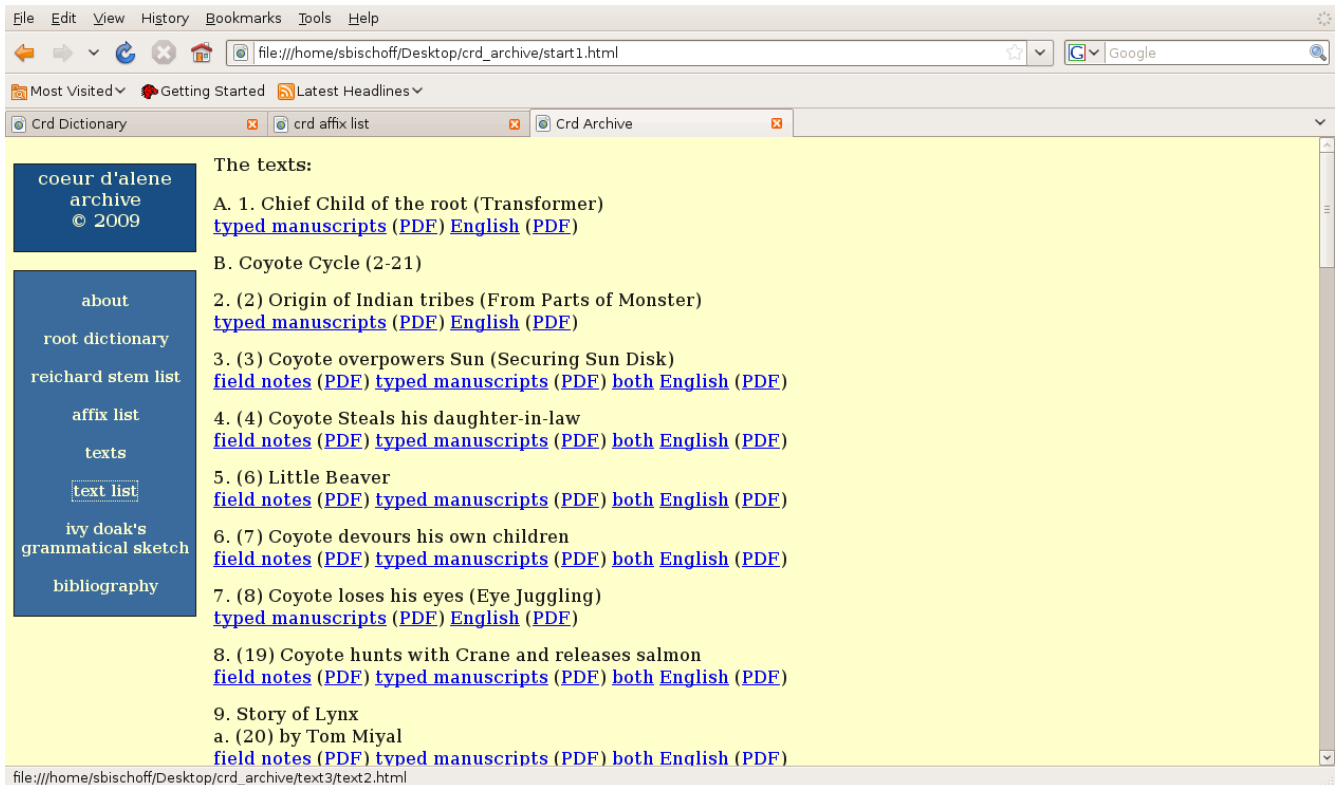


Figure 9: *The Text List*

Choosing the *text list* link brings up the list of texts, forty-eight in all. The texts are numbered in accordance to Reichard's 1947 English publication of the works. Below each title are links, where possible, to Reichard's original *field notes*, *typed manuscripts*, *both*, and the *English* translation published by Reichard in 1947. Each link opens in a new tab with a PNG file of the original. PDF versions of each file are also available to be downloaded. Examples of *both* the field notes and typed manuscript for the text *Cricket rides Coyote* are shown in Figure 10. The user can open each file separately, but allowing the user to view both files simultaneously allows for easier comparison of the texts, for example for philological purposes. Scroll bars for each text, field notes and manuscripts, allow the viewer to move through the texts comparing glosses, transcription, and other elements. The effect was created by using an upper and lower frame.

By selecting the *English* link a scanned copy of the pages containing Reichard's English publication of the text appears in a new tab in PNG format as shown in Figure 11.

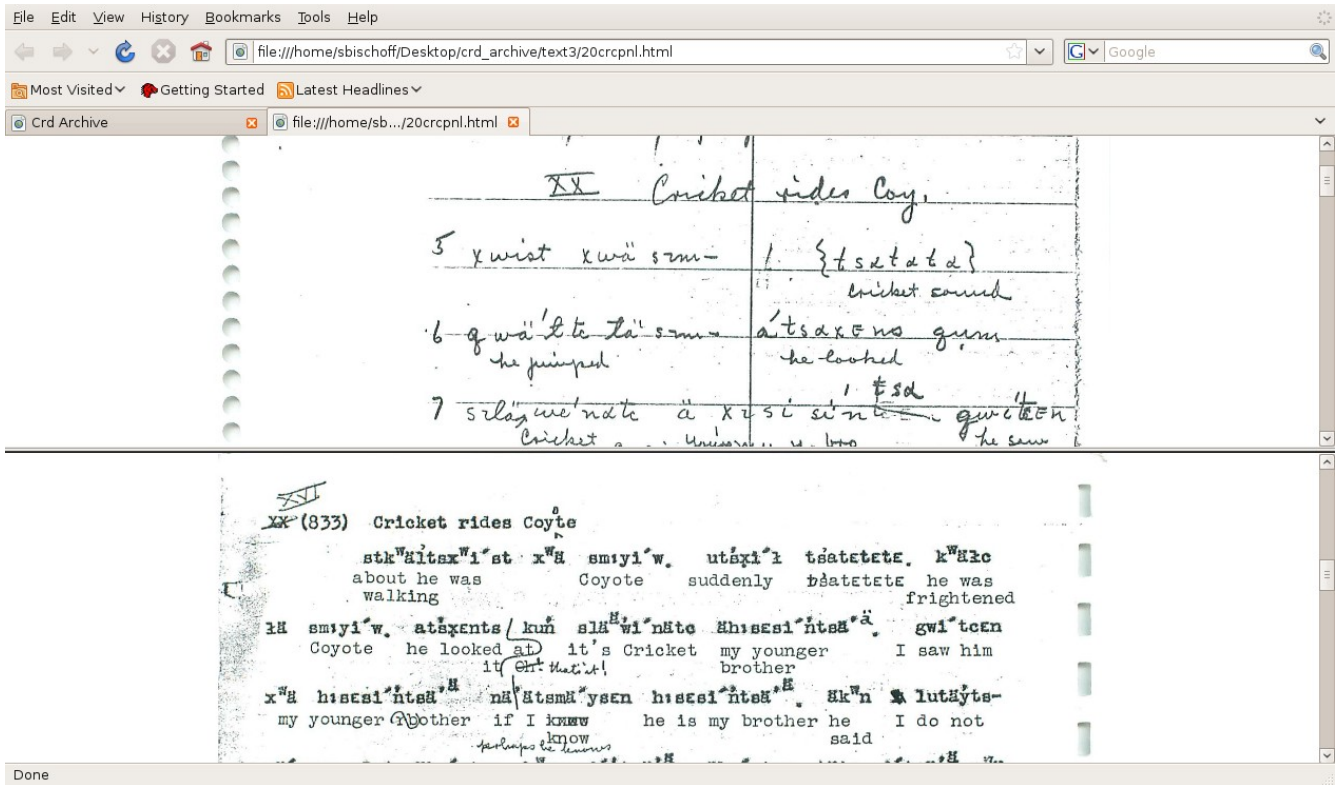


Figure 10: Both Field Notes and Typed Manuscripts

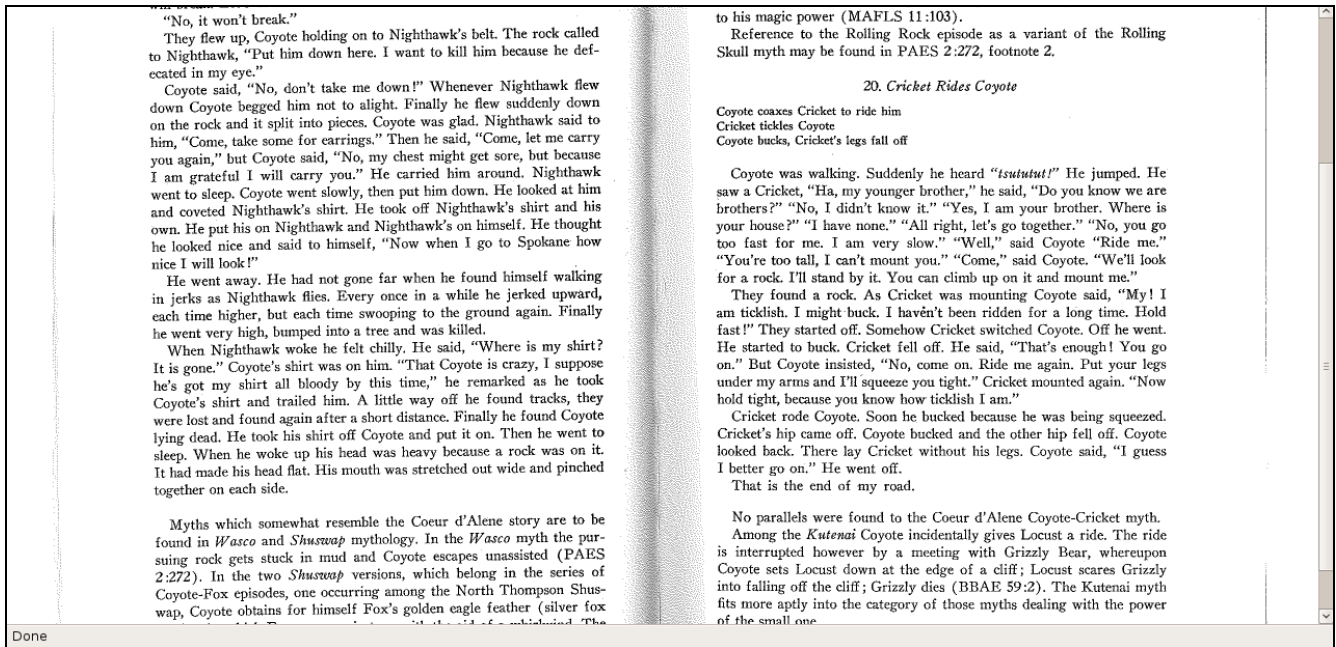


Figure 11: Reichard's English Versions

The above discussion by no means covers all the material in the archive. However, it does give a general idea about the presentation and organization of the archive and the types of material available. The following section discusses three important lessons we learned when creating the archive not covered at the w3schools.com website.

3 CREATING THE ARCHIVE. A surprisingly few HTML commands, Java script lines, and CSS lines were used to create the CA. We encourage the reader to visit w3schools.com to learn the necessary HTML, Java Script, and CSS to create the archive. We also recommend that the reader take a few minutes to visit Wikipedia's discussion of HTML, CSS (Cascading Style Sheets), and Java Script. However, complete understanding of how these work is not necessary. In fact, the w3schools.com website includes a brief introduction to all three that should serve the needs of most archive creators. Here we would simply like to note the software we used and how fonts were dealt with, as it is quite common for fonts to be an issue when dealing with less commonly studied languages. In addition, we want to make a brief note about the organization of the archive for reasons that will be discussed in the concluding remarks.

Before moving onto a discussion of the software we wish to illustrate how simple the w3schools.com lessons are by providing two of there examples which demonstrates how to create *frames* and *tables*. Throughout this paper we have mentioned that most of the pages shown were created with frames and in many cases tables (eg. the root dictionary, affix and stem list, and orthographic conversions pages).⁹ First, is the example of tables (Figure 12) which shows the HTML on the left (which you can cut and paste into your own text file to manipulate or practice with) and on the right is the output. The example illustrates the frame style used with the root dictionary page, where the webpage is divided into two horizontal frames, with the lower frame then being divided into two vertical frames. This renders the page into three separate frames which we exploited for our header (with browse and search mechanisms), our links panel, and the placement of the dictionary itself.

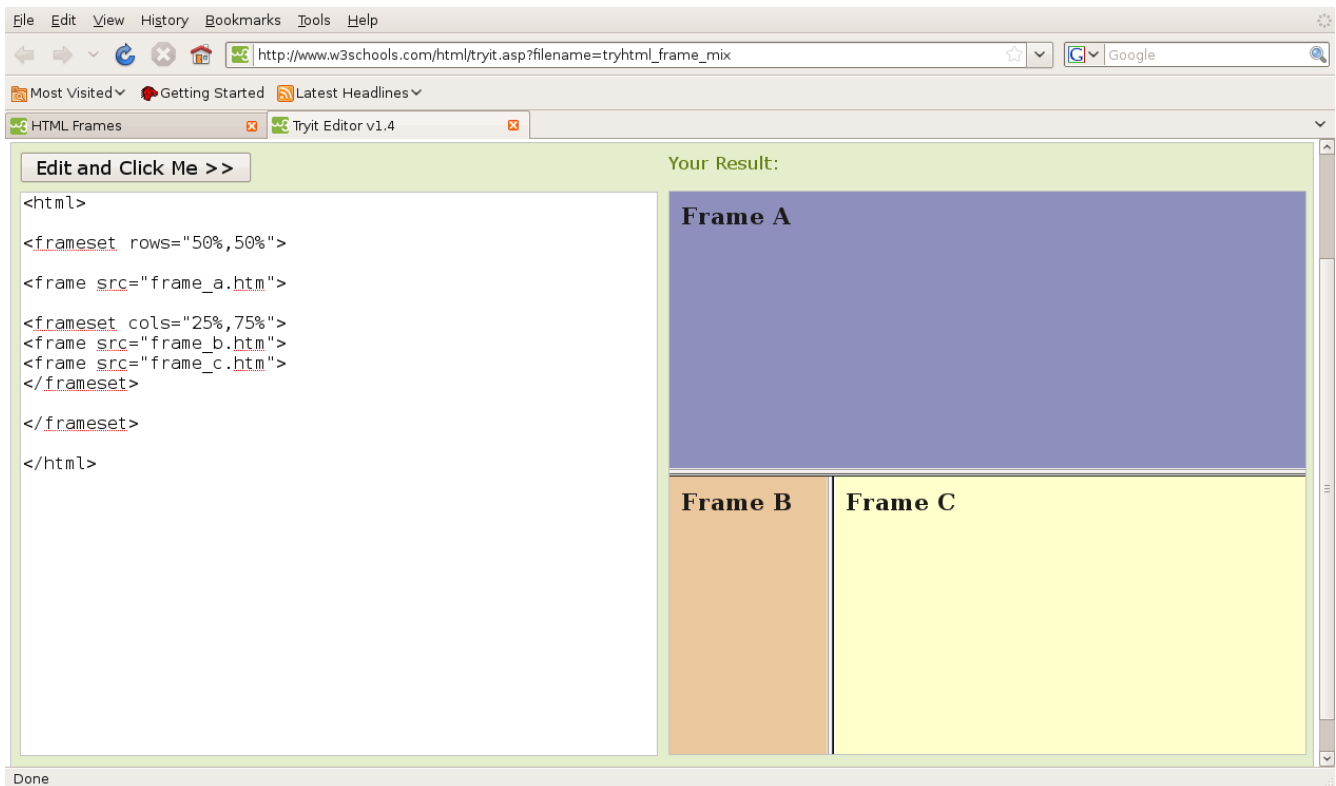


Figure 12: *w3schools.com* frame example

⁹ We recognize that tables are perhaps not the best way to create data bases, however, we feel they are the easiest. In addition, it would seem to be a rather simple process to take existing text files in table format and convert them to an SQL, for example, data base.

The tables example show how you can organize data in different cells for ease of presentation and organization. Tables were used throughout to separate the Salish and Nicodemus' fonts and the English gloss entries.

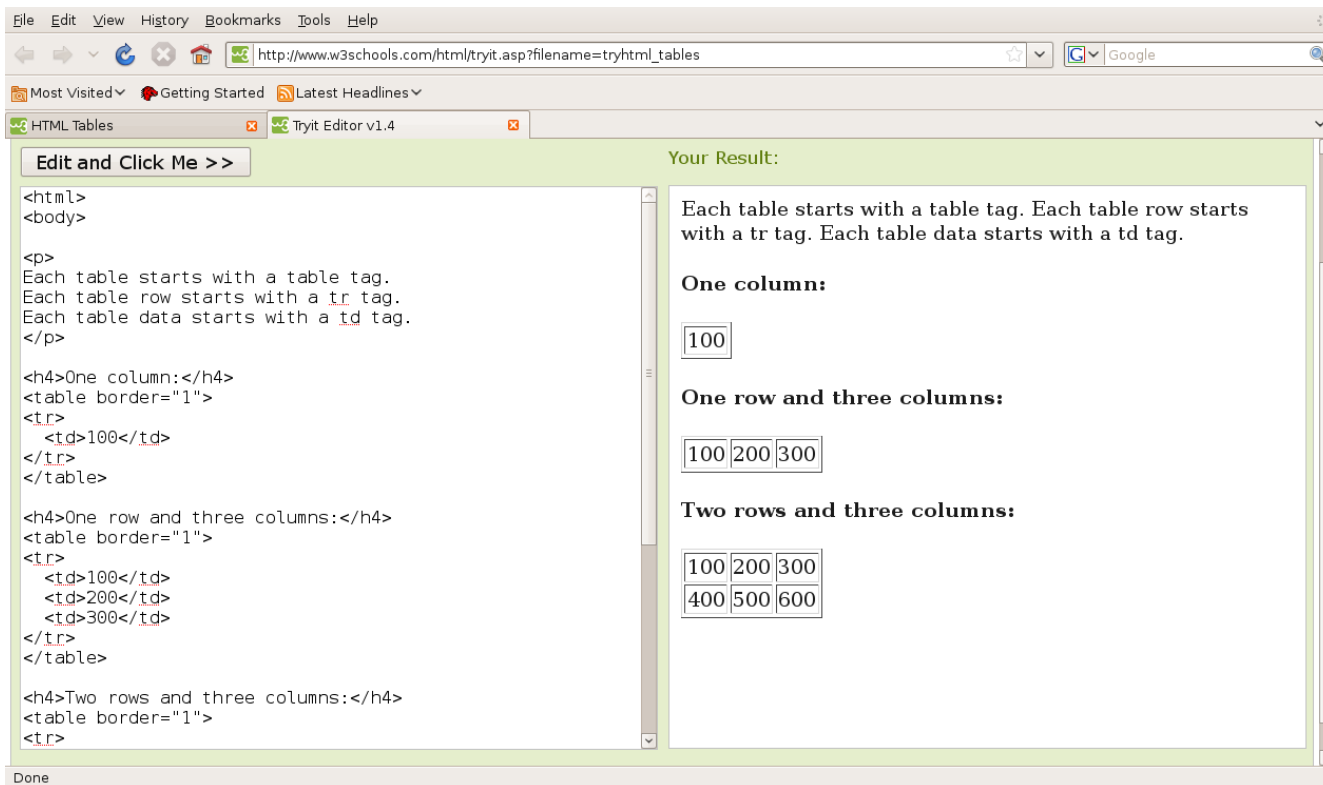


Figure 13: *w3schools.com table example*

One of our goals was to determine if creating such an archive could be done without the use of proprietary software such as Microsoft's operating system and Dreamweaver. To this end we used Ubuntu Ibex 8.10 for our operating system.¹⁰ Ubuntu is an open source operating system that can be installed free on any computer. It is based on the debian linux system and is comparable to Microsoft's XP (or other operating systems) and Macintosh's OS. It uses open source software and provides regular updates and free online assistance. The operating system works, and looks in appearance, much the same as other operating systems employing "folders" and "files" for example. It comes with standard programs such as Open Office which works and looks very similar to Microsoft Office, it also allows you to work with and create Microsoft documents. It further includes a text editor, called Text Editor, similar to Microsoft's Notepad (which is used for creating the HTML files). In addition, it includes an image editor for changing PDF images into PNG images. Not all web browsers allow you to open PDF images in the website itself, however, the majority allow PNG files to be opened in the website directly rather than downloaded. There are a number of open source image editors, we chose to use the Gimp. image editor because it came standard with the Ubuntu operating system. The GIMP editor can be downloaded for free to most computers using Ubuntu, Microsoft, or Macintosh operating systems at <http://www.gimp.org>.

Turning to the organization of files, all files and necessary folders (or directories) need to be kept in one master folder. This folder can be kept on your desktop but at some point will need to be

¹⁰ You can learn more about Ubuntu here <http://www.ubuntu.com/>.

moved to your computer's *www* folder if you use PHP and/or wish to open the site using your browser and *local host*, and eventually to your server. To open the archive before it was in a *www* folder we simply right clicked a file we wished to open and selected to open it with Firefox or Google Chrome, our web browsers. However, for the search mechanism we constructed to work, the file had to be opened through local host. Importantly, you will want to give your files and folders short but clear names so that you can easily remember what they contain, but also so that someone not familiar with the creation of the files and folders can quickly understand your filing system.

In the creation of CA we created one folder simply named the “*crd_archive*”. Within this folder we created a number of files along with a number of folders that contained information for all the relevant web pages linked to the archive. We created folders within the *crd_archive* folder for each major section of the archive. For example we created a folder called “*stem list*” inside the *crd_archive* folder for all the files necessary for the stem list section of the archive. A screen shot of the *crd_archive* folder can be seen in Figure 14.

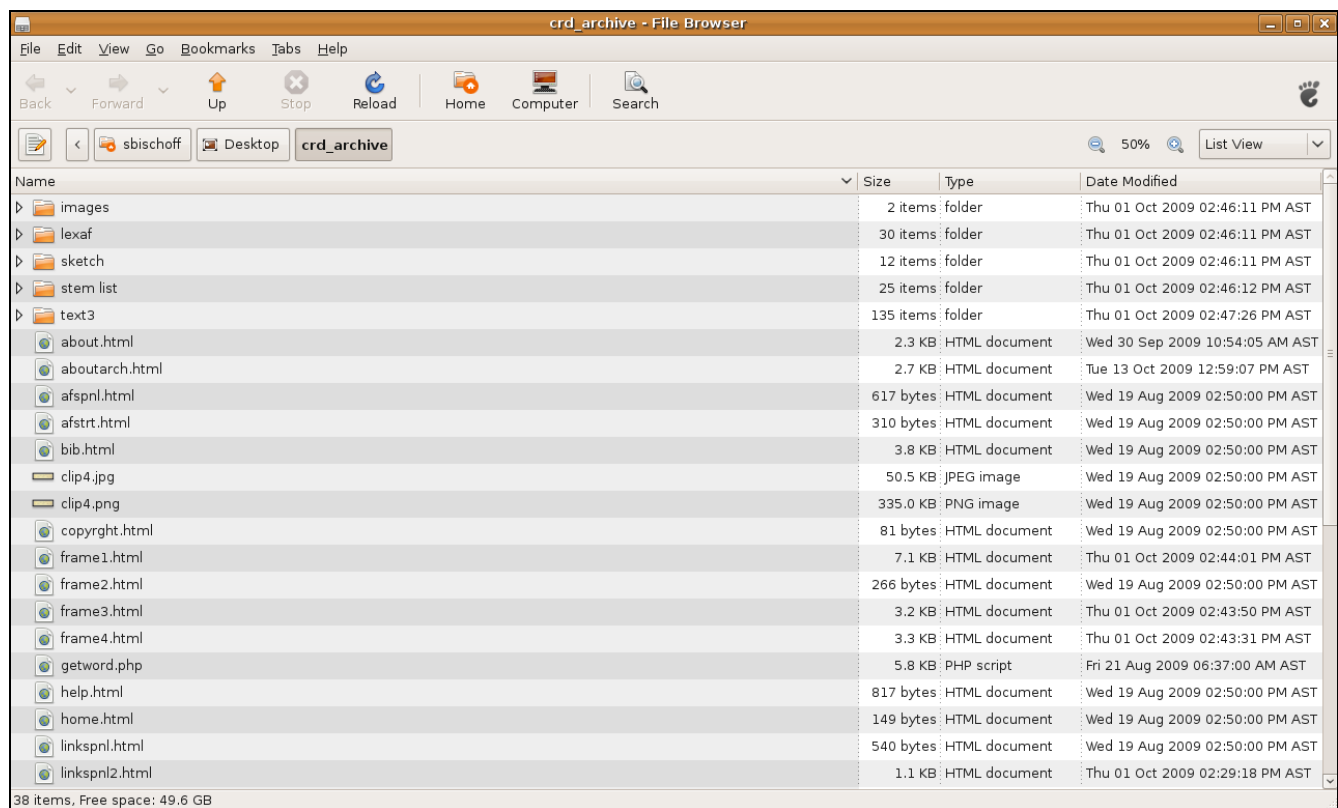


Figure 14: *The “crd_archive” Folder*

It is very important to keep files and folders well organized and to take time before starting out, if possible, to plan a system of labeling and organization. Each time before we did major revisions to the files and folders in the *crd_archive* folder, we created a copy of the *crd_archive* folder and numbered it. This allowed us to keep a back up of the entire archive in case our changes led to any loss of files or folders. It also left us with various versions of the website as we progressed.

Finally, a quick note regarding fonts. It was necessary to use a number of special characters throughout the website. Using special characters in HTML is rather straight forward. When using a special character you can simply use a word file and cut and paste the character in the text file (for example using Notepad). However, you must be sure the font is a unicode font. Some common unicode fonts include Ariel Unicode MS and Times New Roman, among a number of others. Typing “unicode

fonts” into your preferred search engine should turn up any number of lists of such fonts. If you are using a custom keyboard you will want to be sure the font you use is a unicode font. It is best to check with the creator of the keyboard to find out. Another strategy is to use the *File Format Info* website.¹¹

The File Format website can help you locate a particular character and provide you with the relevant unicode number and HTML encoding. The HTML encoding is what will be used to ensure the character appears correctly in a given web browser. For example, if you need to use schwa (ə) in your website you can use the search box at File Format Info by typing in “schwa” or simply pasting the character “ə” into the search box. Selecting the relevant search return will return the page shown in Figure 15. The site provides the unicode name “Latin small letter schwa” and unicode number U+0259. If you scroll down you will find the *Encoding* box which gives the relevant HTML numeric code for the character seen in Figure 16. There are two entries for HTML encoding. These are the “HTML Entity (decimal)” and “HTML Entity (hex)”. Each is followed by a number preceded by an ampersand “&” and the pound symbol “#”. Thus for schwa the decimal encoding is `ə` and the hex encoding is `ă`. When a web browser opens your web page it will recognize the HTML encodings and display the relevant character (not the numbers). There are advantages and disadvantages to using either, but you only need to use one. For the purpose of the archive we chose to use the decimal encodings with some pages and a special keyboard that used a unicode font. We used the two methods simply for experimental and heuristic purposes. So for example we used the actual orthographic character “ə” from a unicode font and the HTML decimal encoding `ə` in our text files when we needed to use schwa.

The screenshot shows the FileFormat.Info website page for the Unicode character 'LATIN SMALL LETTER SCHWA' (U+0259). The page features a search bar at the top, navigation breadcrumbs, and two advertisements. Below the ads, the character name and code point are displayed. An image of the character 'ə' is shown in a box. Below the image are links for 'Browser Test Page', 'Outline (as SVG file)', and 'Fonts that support U+0259'. A table titled 'Unicode Data' provides the following information:

Unicode Data	
Name	LATIN SMALL LETTER SCHWA
Block	IPA Extensions
Category	Letter, Lowercase [L]
Combine	0
BIDI	Left-to-Right [L]

Figure 15: *Unicode Schwa*

11 <http://www.fileformat.info/info/unicode/index.html>

latin small letter turned e	U+01DD
cyrillic small letter schwa	U+04D9
Version	Unicode 1.1.0 (June, 1993)
Encodings	
HTML Entity (decimal)	ə
HTML Entity (hex)	ə
How to type in Microsoft Windows	Alt +0259
UTF-8 (hex)	0xC9 0x99 (c999)
UTF-8 (binary)	11001001:10011001
UTF-16 (hex)	0x0259 (0259)
UTF-16 (decimal)	601
UTF-32 (hex)	0x00000259 (0259)
UTF-32 (decimal)	601
C/C++/Java source code	"\u0259"
Python source code	u"\u0259"
	More...
Java Data	
string.toUpperCase()	⊖
string.toLowerCase()	⊚

Figure 16: *HTML Encodings*

These suggestions, along with the introductory lessons at w3schools.com for HTML, JAVA Script, and CSS are all you need to create a similar website. PHP is a significantly more complicated way of creating a search mechanism, and not necessary. If you are familiar with any programming languages, then you will most likely find the w3schools.com tutorial on PHP helpful. Otherwise you can get similar effects by downloading a free search mechanism to embed in your website or simply use the web browsers search mechanism which is usually called up by pressing *Ctrl f*.

4. CONCLUDING REMARKS. In this paper we have presented some of the many elements included in the Coeur d'Alene Archive. We have noted that the archive was created in a little under six weeks entirely from scratch by two naive participants. We also noted that it was possible to gain the knowledge to create the archive online in the same period for free. In short, we believe that such naive archives are an excellent solution to the need to provide material online for archival, pedagogical, or research purposes.

In addition, such archives can be exploited by experienced researchers who wish to see the realization of the semantic web, provided your files are clearly labeled and organized. It seems to us that it would take little effort to transform the text files and other resources into documents that can be used to facilitate the goals of EMELD or OLAC, for example, by researchers with the relevant skills and knowledge. In this way archiving becomes a two level process: the community producing naive archives and web experts using those archives to create websites that further the goals of the semantic web. Further, many communities already have active web support. It would be quite easy for community scholars and/or linguists to work in conjunction with the web support staff to create similar websites. A series of workshops using the w3schools.com site, or any other free tutorials, could get community members involved and trained. An advantage is that once community members have the basic skills they could work on archive projects from their own home if they have access to a computer. Finally, we demonstrated that meaningful resources can be created at no cost if a server, computer, and scanner are already available. Certainly not all communities have these resources, but a great number do.

One unexpected effect of creating the archive has been that scholars and community members have offered material to include on the site that they have created or that has been in their possession.

In addition, they have offered excellent suggestions on resources that could be rather easily added such as integrated language lessons that take advantage of the various resources such as the root dictionary and narratives. Naturally, these suggestions and resources will be incorporated in the summer when we have six more weeks to focus on the archive.

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