

Introducing *Libera* for Arabic: Language Learning for the Mobile Era

By Jack Halpern, The CJK Dictionary Institute

The CJK Dictionary Institute (CJKI) is proud to introduce **Libera**, an innovative bilingual text reading platform for the iPad, and its inaugural application **Libera for Arabic**.

Libera combines the strengths of traditional parallel texts with the advanced capabilities of tablet technology, allowing language learners to quickly and enjoyably read authentic texts without the need for constant dictionary lookups. This cutting edge platform provides learners with an entirely new mode of accessing foreign language texts, making language-learning more effective and enjoyable than ever before.

The Benefits of Parallel Texts

“Parallel text” refers to a source text and its translation into another language aligned side by side, as shown below.

I remember him as if it were yesterday, as he came plodding to the inn door, his sea-chest following behind him in a hand-barrow; a tall, strong, heavy, nut-brown man; his tarry pigtail falling over the shoulders of his soiled blue coat; his hands ragged and scarred, with black, broken nails; and the sabre cut across one cheek, a dirty, livid white. I remember him looking round the cove and whistling to himself as he did so, and then breaking out in that old sea-song that he sang so often afterwards :

"Fifteen men on the dead man's chest—
Yo-ho-ho, and a bottle of rum!"

Todavía lo recuerdo como si aquello hubiera sucedido ayer: llegó á las puertas de la posada estudiando su aspecto, afanosa y atentamente, seguido por su maleta que alguien conducía tras él en una carretilla de mano. Era un hombre alto, fuerte, pesado, con un moreno pronunciado, color de avellana. Su trenza ó coleta alquitranada le caía sobre los hombros de su nada limpia blusa marina. Sus manos callosas, destrozadas y llenas de cicatrices enseñaban las extremidades de unas uñas rotas y negruzcas. Y su rostro moreno llevaha en una mejilla aquella gran cicatriz de sable, sucia y de un color blanquizo, lívido y repugnante. Todavía lo recuerdo, paseando su mirada investigadora en torno del cobertizo, silbando mientras examinaba y prorrumpiendo, en seguida, en aquella antigua canción marina que tan á menudo le oí cantar después:

"*Son quince los que quieren el cofre de aque! muerto
Son quince iyo-ho-ho! son quince iviva el rom!*"

Parallel texts have long been recognized as a powerful tool for language learning because they eliminate many of the traditional obstacles encountered by second-language learners, thus facilitating rapid and effective language acquisition. The main advantages of parallel texts include:

- Freeing learners from tedious dictionary lookups
- Facilitating rapid vocabulary acquisition without rote memorization
- Presenting new vocabulary items in *authentic* contexts
- Exposing learners repeatedly to frequently used words
- Enabling learning through the pleasurable experience of *reading*

Voluntary Reading and Comprehensible Input

The last point, enjoying reading as a *pleasurable experience*, is critical to the success of parallel texts as a learning tool. Prominent language researcher Stephen Krashen contends that *free voluntary reading* is in fact “the most powerful tool we have in language education,” a conclusion based on years of research into foreign language acquisition (Krashen 1989, 2002, 2004). Krashen explains that if the learner is presented with large amounts of understandable reading material (*comprehensible input*) in an enjoyable and stress-free manner, he or she will be able to naturally absorb both vocabulary and grammar with greater efficiency than through traditional classroom learning or rote memorization. In addition, the input should ideally be composed of a topic inherently interesting to the learner and presented at a level slightly above the reader’s current language ability, or, as Krashen calls it, *i+1*.

Parallel texts offer an ideal way to access a huge amount of *i+1* level material that could otherwise be daunting. Numerous studies have shown that parallel texts allow pleasurable, self-motivated reading, greatly expanding the potential for knowledge acquisition. Indeed, where halting, laborious reading can discourage the learner, enjoyable reading can instead generate a self-reinforcing cycle of learning and enjoyment (Clark & Rumbold 2006, Guthrie & Wigfield 2000, Baumann & Duffy 1997, Coady 1997, Nuttall 1996). In this way, readers can avoid the frustration and lack of comprehension that have traditionally discouraged them from pursuing extensive reading in a foreign language.

Indeed, generations of learners have discovered that parallel texts are among the most powerful tools for mastering a new language, a view supported by substantial research evidence (Nerbonne 2000, Barlow 1996). In sum, parallel texts truly *work*.

The Limits of Traditional Parallel Text

For all the advantages of parallel texts, the paper medium has presented challenges that – until now – have been difficult to overcome:

- Placing the source and target languages on facing pages allows only two texts to be displayed, whereas some languages require three or more texts (e.g. romanized Chinese)
- Notes on grammar and vocabulary, when provided, can be inconveniently located
- Learners often struggle to find word-level correspondences between languages, as in the case of non-adjacent words (e.g. *picked the baby up*)

These challenges are unavoidable in traditional parallel texts because they are simply inherent to the paper medium. While Computer-Assisted Language Learning (CALL) has improved the situation somewhat, desktops and laptops are unable to compete with the lightweight mobility of traditional paper-based parallel texts. The true solution for parallel texts is to be found in a new medium altogether.

A New Paradigm for Language Study

To overcome the limitations of paper-based parallel texts, CJKI has developed a new type of hypertext, referred to as **Interactive Bitext** (IB), designed specifically for second language acquisition. The advent of this new medium allows second-language learners to enjoy the benefits of parallel text outside the bounds of the physical page.

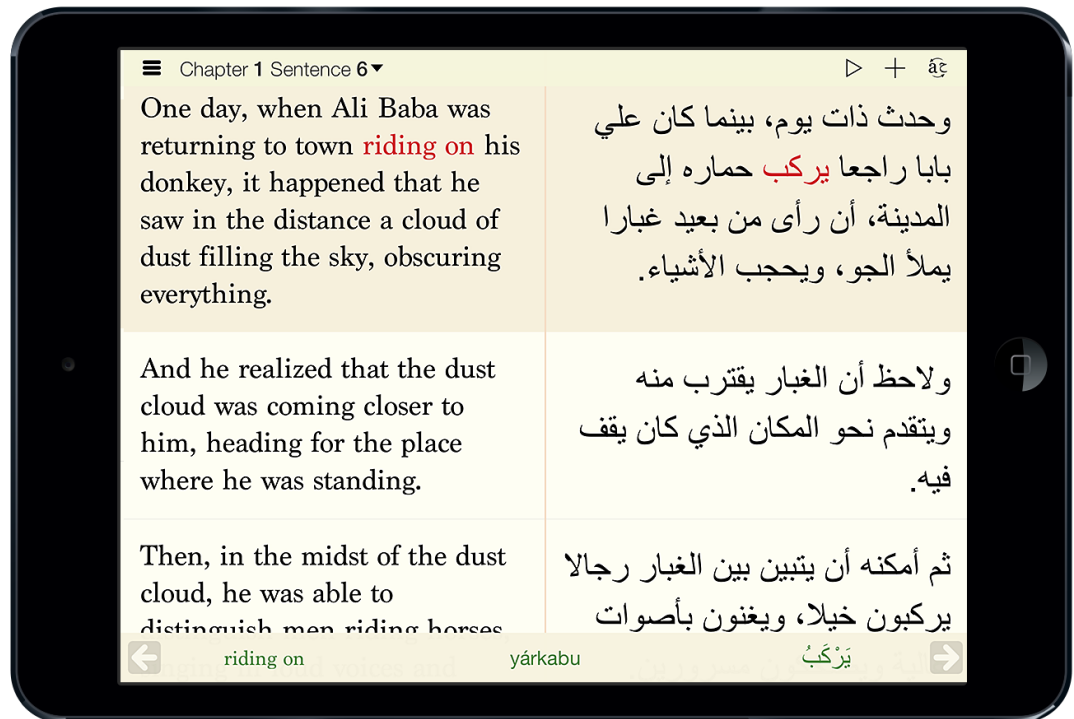
Unlike paper-based parallel texts, interactive bitext allows up to *four* texts – from alternate languages to other script forms (e.g. romanization) – to appear side by side for easy viewing. The texts are precisely linked to each other at the *segment* (word or phrase) level, so that tapping a segment in any one text (activating a *bitext link*) simultaneously highlights the linked segment in each of the other texts, even if the segment consists of non-adjacent words (like *pick the baby up*). Interactive bitext thus makes cross-lingual correspondences linguistically unambiguous and visually clear. Furthermore, tapping a bitext link activates a variety of learning aids including vocabulary glosses, grammar notes, and voice recordings by native speakers.

The CJK Dictionary Institute is pleased to make these capabilities available to language learners through a brand new platform called the Learner's Interactive Bitext Electronic Reading Application, or **Libera**, a state-of-the-art multilingual

environment that promises to transform language learning into a truly enjoyable experience.

Libera and the iPad

Libera was born out of the natural pairing of parallel text with the iPad platform. The iPad is uniquely suited to mobile language education, providing a flexible environment for interface design and allowing for user-friendly, aesthetically pleasing applications with full multimedia capabilities. Moreover, iPad applications are dynamic in a way that desktop software is not – a major reason why the iPad was the natural platform choice. Finally, the iPad’s lightweight, mobile design is ideal for today’s language learner, who can use the application both at home and in a crowded train with equal ease. Libera thus finds a perfect home in the iPad, harnessing the flexibility of the platform to create an entirely new learning environment.



The Power of Libera

To ensure a seamless user experience, Libera was designed with several key concepts in mind.

First, Libera is **effective**. It naturally offers all the benefits of traditional parallel texts, building the reader’s vocabulary and grammar skills in a natural and enjoyable way. In fact, Libera is an ideal application of Krashen’s theories of language acquisition, immediately turning even difficult foreign language texts

into *comprehensible* input. Users are thus no longer restricted to *i+1* level text, because with Libera they can read at higher levels without loss of understanding.

Second, Libera is **efficient**. Like traditional parallel texts, Libera frees the learner from time-consuming consultation of dictionaries and grammar books. Furthermore, segment-level links save the learner substantial time and effort: rather than laboriously parsing “The mother picked the baby up in her arms” to find the main verb, touching either the word “picked” or “up” will simultaneously highlight both words in addition to their equivalents in the other versions of the text. Finally, customized dictionaries, supplemental vocabulary glosses, grammar notes, and recordings of native pronunciation are all available at the user’s fingertips, eliminating the nuisance of switching between several apps and references.

Finally, Libera is **intuitive**. A carefully designed user interface offers a host of features and capabilities without sacrificing the elegant simplicity of parallel texts. Special effort was made to ensure a clean, uncluttered screen, and gestures and buttons were carefully designed to be as user-friendly as possible. Furthermore, users can access nearly all supplemental features, such as glosses, voice recordings and grammar notes, simply by tapping on the text.

A Breakthrough in Arabic Learning

The inaugural application of the Libera platform is **Libera for Arabic**, the newest in a line of over fifty dictionary and language learning apps from CJKI. Representing a new generation of Arabic learning technology, Libera for Arabic is an application for English speakers that tells the classic fable of *Ali Baba and the Forty Thieves* from *One Thousand and One Nights*. As with future installments of the Libera series, Libera for Arabic will soon grow to include a selection of titles, giving users access to a wide range of Arabic texts.

“*Libera for Arabic is a revolution in the field and should be well received by educators and students.*”

Miled Faiza,
Lecturer of Arabic, Brown University

We have chosen Arabic as our first Libera application not only because it is one of the most widely spoken languages in the world – and one with a rapidly

growing number of new learners – but also because Arabic has traditionally presented a number of challenges that paper parallel texts have failed to solve. These include, for instance, the need to display both vocalized and unvocalized scripts, the difficulty of indicating precise correspondences between Arabic and English, and the difficulty of identifying a word’s canonical form from its inflected form. Each of these issues has been meticulously analyzed and fully addressed in developing Libera for Arabic.

Four Versions of One Text

Chapter 1 Sentence 5 ▾		▷ + āḥ	
Ali Baba earned what he needed for a living by selling firewood, which he collected in a faraway forest, and brought it back on his donkey to sell in the town’s market.		فكان علي بابا يكسب ما يحتاج إليه من القوت ببيع الحطب الذي يجمعه في غابة بعيدة ويعود به على حماره ليبيعه في سوق المدينة.	
	فَكَانَ عَلِيٌّ بِأَبَا يَكْسِبُ مَا يَحْتَاجُ إِلَيْهِ مِنْ الْقُوتِ بِبَيْعِ الْحَطَبِ الَّذِي يَجْمَعُهُ فِي غَابَةِ بَعِيدَةٍ وَيَعُودُ بِهِ عَلَى حِمَارِهِ لِيَبِيعَهُ فِي سُوقِ الْمَدِينَةِ.	fakāna ʿalī bāba yáksibu ma yahtāju `iláyhi mína_lqūti bibáyei _lḥáṭabi_lladhī yajmáʿuhu fī ghābatin baʿīdatin wayaeūdu bíhi ʿála ḥimárihi liyabīʿahu fī sūqi _lmadīnati.	
←	he collected	yajmáʿuhu	→ يَجْمَعُهُ

For learners of Arabic, learning how to read vocalized texts is a prerequisite step in learning how to read unvocalized texts. Ideally, both should be provided alongside the English version, but paper texts, by their very nature, are unable to comfortably accommodate more than two texts. By using a customizable panel display system, Libera for Arabic can display up to four different texts simultaneously, allowing learners to read both vocalized and unvocalized Arabic at the same time. Particularly for beginning and intermediate Arabic learners, this option aims to create an ideal Arabic language learning environment.

In addition to vocalized and unvocalized scripts, Libera for Arabic offers **romanized** text, an important aid for elementary learners, using the innovative **CJKI Arabic Romanization System** (CARS) (Halpern 2009). According to

prominent Arabic scholar Karin Ryding (2013), the Arabic writing system presents particular “perceptual challenges” for the learner, making an effective romanization particularly important. Aside from the unfamiliar right-to-left reading, for instance, the letters themselves often change form depending on their immediate surroundings, making the learning curve for Arabic reading especially steep.

We developed CARS to enable learners to pronounce Arabic accurately and with ease. This romanization offers several unique features not found elsewhere, including a user-friendly set of symbols that represent Arabic pronunciation unambiguously. For example, in *اَلْحُكُومَةُ اَلْيَابَانِيَّةُ* *alḥukūmatu lyabāniyyatu* ‘the Japanese government’, long vowels (as in *kū*) are shown by a macron, word stress by the accent mark (as in *kū*), and, for the first time, long vowels that are shortened (*neutralized*) in actual pronunciation are indicated by an underline (as in *ǧ*).


Finally, Libera for Arabic features a natural, highly readable **English version**. Taken together, these four texts – vocalized and unvocalized Arabic, CARS romanization, and English – arm the Arabic learner with powerful tools for acquiring the language rapidly and with ease.

Key Features

In addition to the unvocalized, vocalized, romanized, and translated versions of the text, Libera for Arabic provides several features designed to support and enrich the learning experience.

Segment-level Features

Customized dictionary. Specially created for Libera for Arabic, the dictionary tool allows learners to instantly view the *canonical* form of each Arabic word in the text in addition to the CARS romanization, part of speech, and English equivalents. This is a particularly critical for Arabic, in which inflected words can be very different from their canonical forms. In the example, learners can quickly see that the word *يَجْمَعُهُ* *yajmáeuhu* ‘he collected it’ is a conjugated form of the verb *جَمَعَ* *jámaea* ‘gather, collect’.



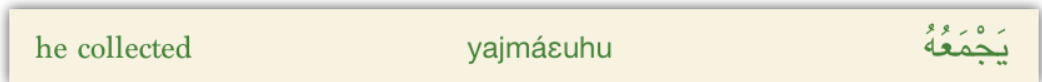
اَلْحُطْبِ الَّذِي يَجْمَعُهُ فِي غَابَةِ

جَمَعَ *jámaea* verb

1. gather, collect
2. combine, join

An additional feature unique to this dictionary is that when a word has multiple senses, the relevant sense is highlighted, eliminating the need for the user to think about which sense is appropriate to the specific context. In the example, the red highlight indicates that in the context in question **جَمَعَ** is used in the sense of 'gather, collect' rather than the sense of 'combine, join'.

Segment bar. The English equivalents for each segment are also shown in the **segment bar**, which displays at the bottom of the screen the meaning, vocalized form, and CARS romanization of the highlighted segment. Tapping the segment bar brings up the Word Info page (see below) for that segment, providing the reader with more complete information on the selected word. The segment bar feature is particularly convenient for more advanced users who need occasional English help in reading the Arabic text on its own without referring to the translation.



Word Info. For more in-depth information on specific words, the **Word Info** page offers both the dictionary entry and full example sentences for each word. This feature is well suited to concentrated vocabulary study, in which multiple example sentences provide a fuller picture of each word.



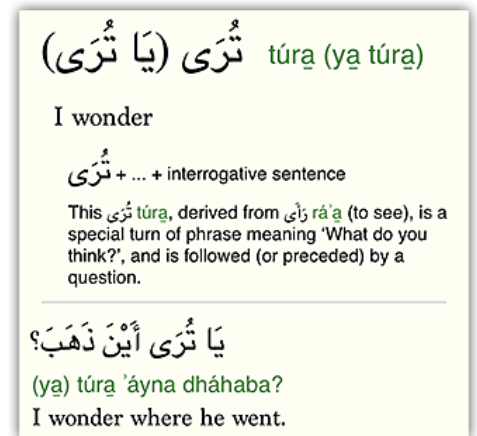
Favorite words. As a further aid to vocabulary building, Libera for Arabic enables learners to build a list of favorite words as they read. This list links directly to the Word Info page for each word, so learners can quickly see the English equivalents and examples for unfamiliar words. By storing a list of favorite words, the learner can quickly and easily review key vocabulary items.

Full-form search. This useful function allows the user to locate and jump to sections of the story by using either English or Arabic text search. Helpfully, the Arabic search function finds all instances of the word in the text (even those with different conjugations), highlights the word in the search results, and allows both romanized and Arabic input. As in the example below, typing *tara* (or تَرَى or تَرَى) 'you see' (second person singular masculine of the active jussive mood) will directly locate all entries for رَأَى, تَرَى, يَرَوْنِي etc., without requiring the user to know that رَأَى is the canonical form for that verb nor that رَأَى is its root.



Grammar Tools

Grammar Notes. In addition to information at the word and segment level, the **Grammar Notes** help learners make sense of challenging structures. These notes are indicated by color coding and can be viewed with a simple touch, offering quick access to a deeper understanding of Arabic sentence structure.



Verb Conjugator. To help learners master the highly complex Arabic verb system, Libera for Arabic also features a **Verb Conjugator** tool based on CJKI's best-selling Arabic Verb Conjugator app, or CAVE. Drawing upon CAVE's in-depth coverage of conjugation paradigms for the most common verbs in contemporary Arabic, this tool provides a full paradigm for any conjugated verb the user comes across in the text. For instance, for the word *yatii* (or *ya'tii* or يأتي) 'he comes' (third person masculine singular of active imperfect), the conjugator will directly provide the canonical form أتى 'áta. This innovative tool promises to be invaluable for learners, who often struggle to identify verbs with unfamiliar conjugation patterns.

Chapter 1 Sentence 5

أَحْتَاَجَ
ihṭāja
need, want

Perfect Active

1 S	I needed	أَحْتَجْتُ	أنا
2 S M	you needed	أَحْتَجْتَ	أنت
2 S F	you needed	أَحْتَجْتِ	أنت
3 S M	he needed	أَحْتَاَجَ	هو
3 S F	she needed	أَحْتَاَجَتْ	هي

فكان علي بابا يكسب ما يحتاج إليه من القوت ببيع الحطب الذي يجمعه في غابة بعيدة ويعود به على حماره ليبيعه في سوق المدينة.

fakāna ʿalī bāba yáksibu ma yaḥtāju `ilāyhi mína l-qūti bibáyeyi l-ḥáṭabi l-ladhi yajmáehu fi ghābatin baʿīdatin wayaeūdu bíhi ʿála ḥimārihi liyabíʿahu fi sūqi l-madīnati.

he collected yajmáehu يَجْمَعُهُ

Word Structure. Another feature highly useful to the learner is the **Word Structure** tool, which provides a grammatical analysis of each word. Arabic word structure presents daunting problems for non-native learners, who lack the extensive morphosyntactic background necessary for rapid word parsing (Ryding 2013). Indeed, it is not uncommon for words to exhibit a complex structure that consists of several components. The **Word Structure** tool decomposes the word into prefixes, suffixes, stems, and other grammatical elements, providing the learner with a clear understanding of how the components relate to one another. For example, the word وَيَجْمَعُهُ *wayajmáehu*

'and he collects it' consists of (1) the conjunction *وَ wa* 'and', (2) *يَجْمَعُ yajmáeu*, the 3rd person imperfect of the verb *جَمَعَ jámæa* 'to collect', and (3) the pronoun suffix *هُ hu* 'he/it'.

Chapter 1 Sentence 5 ▾
▶ + āġ

Word Structure

وَيَجْمَعُهُ wayajmácuhu and he collects it
consists of the following components:

وَ + يَجْمَعُ + هُ

وَ wa conjunction 'and'

يَجْمَعُ yajmácu verb 'he collects'
Imperfect Active third person masculine
from *جَمَعَ jámæa* 'collect' (Form I S3)

هُ hu pronoun suffix 'he'

*يَجْمَعُهُ فِي غَابَةِ بَعِيدَةٍ وَيَعُودُ بِهِ
عَلَى حِمَارِهِ لِيَبِيعَهُ فِي سُوقِ
الْمَدِينَةِ.*

*فكان علي بابا يكسب ما يحتاج إليه
من القوت ببيع الحطب الذي
يجمعه في غابة بعيدة ويعود به
على حماره ليبيعه في سوق
المدينة.*

fakána éalī bába yáksibu ma
yaĥtáju 'iláyhi mína lqūti bibáyēi
lĥáṭabi lladhī yajmáeu hu fī
ghábatin baēīdatin wayaeūdu bíhi
éala ĥimárihi liyabíeahu fī súqi
lmadínati.

← he collected
yajmáeu hu
يَجْمَعُهُ →

Full Audio Functionality

In addition to the rich set of text-based features, various audio features allow learners to sharpen their listening and pronunciation abilities:

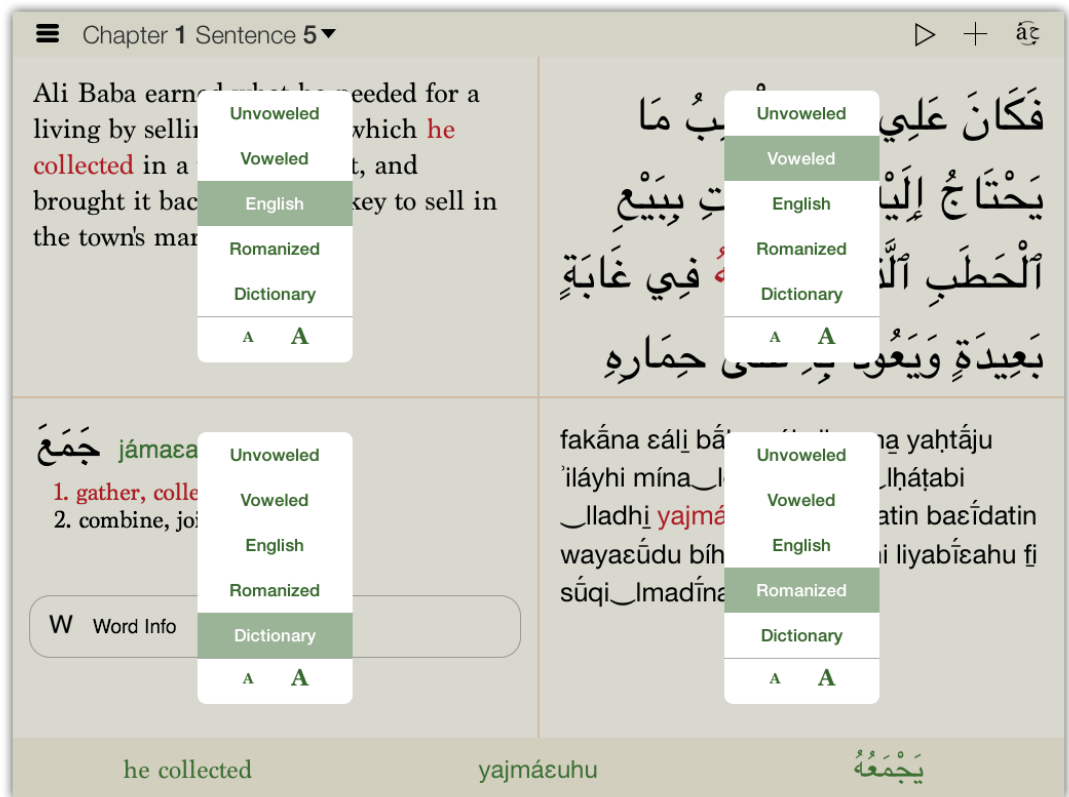
- **Full, native recordings** of the text, with multiple voice options, offer a clear and pleasing listening experience
- Recordings of both **full sentences** and **individual words** help readers discern the subtle differences between pronunciations of isolated words and continuous speech
- **Adjustable audio speed** allows users to listen to the native pronunciation at a comfortable pace
- Optional **background music** provides a more immersive experience in the world of *One Thousand and One Nights*

By tapping into the iPad's unique multimedia potential, Libera for Arabic offers an all-around language-learning platform well beyond the scope of a simple reading aid.

Multi-panel Interface

Libera for Arabic's text- and audio-based features come together in the innovative multi-panel interface. The user has a choice of three different reading modes: the one-panel **Single Text Mode**, the two-panel **Bitext Mode**, and the four-panel **Sentence Mode**. In addition, there is an audio-only Listen Mode for practicing listening comprehension. The user is free to choose the contents of each panel from the following:

- English equivalent
- Unvocalized Arabic
- Vocalized Arabic
- CARS romanization
- Arabic-English dictionary
- Word structure information
- Verb paradigm



Each panel view offers different learning strategies, with several possible examples outlined below:

Single Text Mode. This **one-panel** mode is best suited for advanced learners who wish to test their ability by, for instance, reading the unvocalized Arabic text only. The segment bar is particularly useful here for segment-level help.

Bitext Mode. Perhaps the most natural mode for those accustomed to paper parallel texts, the **two-panel** Bitext Mode allows side-by-side study of English and Arabic. For beginning and intermediate learners, CARS romanization or vocalized Arabic may be the most appropriate, while for more advanced learners, unvocalized Arabic may be more effective. Beginners can also use this mode to test their Arabic reading by putting Arabic text alongside its romanization.

Sentence Mode. This **four-panel** mode is ideal for in-depth study of the text, as it allows careful, sentence-level analysis with up to four versions of the text displayed on the screen. A typical use of this mode includes English, vocalized Arabic, romanization, and the dictionary, allowing the reader to fully understand even difficult sentences with ease.

Listen Mode. For students who wish to test their listening comprehension, the Listen Mode offers the option to listen to the voice recording of the story without seeing the text. Customizable audio speed makes this mode accessible to both intermediate and advanced learners.

Libera for Arabic **SUMMARY OF FEATURES**

- Customized Arabic-English dictionary
- Segment bar
- Word Info screen
- Favorite word list
- Full-form search
- Grammar Notes
- Verb Conjugator tool
- Word Structure tool
- Full audio recordings
- Multi-panel interface

In short, *Libera for Arabic* offers a complete, multimedia language-learning environment for the student of Arabic, putting all the tools necessary for rapid learning at the user's fingertips. By making the learning experience effective and enjoyable, Libera promises to transform the face of computer-aided language learning.

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Jack Halpern

Jack Halpern (春遍雀來), CEO of **The CJK Dictionary Institute**, is a lexicographer by profession. For sixteen years was engaged in the compilation of the *New Japanese-English Character Dictionary*, and as a research fellow at Showa Women's University (Tokyo), he was editor-in-chief of several kanji dictionaries for learners, which have become standard reference works.



Jack Halpern, who has lived in Japan over 40 years, was born in Germany and has lived in six countries including France, Brazil, Japan and the United States. An avid polyglot who specializes in Japanese and Chinese lexicography, he has studied 15 languages (speaks nine fluently) and has devoted several decades to the study of linguistics and lexicography.

Jack Halpern has published over twenty books and dozens of articles and academic papers, mostly on the Japanese writing system and CJK information processing, has given over 600 public lectures on Japanese language and culture, and has presented several dozen papers at international conferences.

On a lighter note, Jack Halpern loves the sport of unicycling. Founder and long-time president of the International Unicycling Federation, he has promoted the sport worldwide and is a director of the Japan Unicycling Association. Currently, his passion is playing the quena and improving his Chinese, Esperanto and Arabic.

The CJK Dictionary Institute



The CJK Dictionary Institute, Inc. specializes in Chinese, Japanese and Korean lexicography. CJKI is headed by Jack Halpern, editor-in-chief of the *New Japanese-English Character Dictionary* and various other dictionaries that have become standard reference works for studying Japanese. CJKI is one of the world's prime sources for CJK and Arabic dictionary data, and is contributing to CJK information processing technology with its high-quality lexical resources.

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