Kākauna
Indigenous Hawaiian Orthography: A Conscript[1]

Kākauna is a script constructed in 2018 by Hayyim Obadyah. It is a hypothetical script for Hawaiian, which is currently written with Latin letters. "Kākauna" is derived from the Hawaiian word for "write" (*kākau*) with a nominalizing suffix. In English text, it may appear without the *kahakō* (macron) over the first "a".

Historical Background. The Hawaiian language had never been written before the arrival of American missionaries in the early 1800's. They created an alphabet in order to produce a Hawaiian translation of the Bible. Hawaiians were so responsive to the concept of writing that they soon had the highest literacy rate in the world. Over 80 newspapers were regularly published in Hawaiian to meet the demand for information about the outside world. Western diseases, however, reduced the native Hawaiian population from 300,000 in the 1770s to 60,000+ in the 1850s, and then to 24,000 in 1920. After the illegal overthrow of Hawaii's constitutional monarchy in 1893, followed by the illegal American annexation in 1898, the American occupation tried to suppress the language. It was forbidden in public schools and, of course, all government business was conducted only in English, rather than both Hawaiian and English as in the monarchy. At one point in the 20th century it is believed that the language had no more than 500 native speakers. In the 1980s, though, a strong movement developed to advocate for the language's revitalization, the flagship of which was a string of Hawaiian-language pre-schools. As of 2011, the number of native speakers had increased to 2,000 and a total of 24,000 said that they are fluent in the language (although some think that the latter number is exaggerated). Native speakers continue to increase as those who learned it as a second language choose to raise their children with Hawaiian as the language of the home.

Linguistic Background. Hawaiian, together with Marquesan, is in the Marquesic group of Central Eastern Polynesian (which also includes Tahitic languages), within the Nuclear Polynesian branch of the Polynesian family. Polynesian is a family of the Oceanic group of the Austronesian languages. (Although Maori on New Zealand is Polynesian, the Austronesian languages have nothing in common with Australian Aboriginal languages.) Hawaiian is an analytic language, with no conjunctions or declensions, but frequent use of particles. Sentences normally have Verb-Subject-Object order, but fronting is often used for emphasis. Pronouns have number (singular, dual, plural) and are inclusive or exclusive. Possessives all fall into one of two categories ("a-class" and "o-class") which may or may not reflect an alienable-inalienable distinction. Only (C)V syllables are permitted; i.e., no consonant can follow another and any consonant must be followed by a vowel. There are 18 phonemes, 10 vowels (short a, e, i, o, u and long ā, ē, ī, ō, ū) and 8 consonants (h, k, l, m, n, p, w, and glottal stop). The macron indicating long vowels is called *kahakō*. The glottal stop is called *ʻokina*, and is encoded as U+02BB "modifier letter turned comma". The original orthography developed by the missionaries did not make use of either *kahakō* or *ʻokina*. This created ambiguity, although fluent speakers could usually determine whether "*pau*" indicated *pau* (finished), *paʻu*: soot, *paʻū* (damp), or *pāʻū* (skirt). (In translating names and Biblical terms, the missionaries also used letters such as b, f, r, etc. that do not reflect Hawaiian phonemes. Hawaiians call these "Bible letters". They are of course not rendered at all in Kākauna.) In the mid-twentieth century, greater engagement by professional linguists in teaching Hawaiian led

[1] Constructed Hawaiian script ©2018 Hayyim Obadyah

to greater emphasis on consistent use of *kahakō* and *ʻokina*, which is now considered standard modern Hawaiian orthography.

Conscript Premise. Kākauna was developed from the hypothetical of a native Hawaiian orthography existing prior to contact with the West. The creator decided on an alphabet as most appropriate given the syllable structure and phoneme pool. The script reflects an unrelated situation in one of the Semitic languages: although Semitic languages often do not have letters for vowels and do have a letter for glottal stop, Ugaritic, though it does not generally indicate vowels, has three letters to indicate glottal stop because they specify the following vowel: ʻa, ʻi, and ʻu. Kākauna suggests that ancient Hawaiians might have interpreted glottal stop not as a consonant but as a characteristic of vowels. Thus, the 10 vowel phonemes would be represented by 20 symbols, each of which symbols would indicate either a vowel preceded by glottal stop or a vowel without glottal stop. Hawaiian words were identified beginning with each of the 10 vowel phonemes, the 10 glottal-stop+vowel phoneme pairs, and the 7 consonants (excluding glottal stop), for a total of 27 words. These words were then used as the basis for drawing 27 representations which were then reduced to 27 symbols.

> [The following material is written from an in-universe perspective, i.e. as if this orthography had actually been developed by Hawaiians before contact with the West.]

Hawaiian orthography is a set of 27 alphabetic letters representing sounds of the Hawaiian language. It was developed in Hawaiʻi before contact with the West, making it one of the few writing systems that is neither derived from nor inspired by any other system.

Constructing the history of Hawaiian orthography is complicated by the fact that the wood and tapa upon which were used as writing media do not have the durability of clay tablets, stone stele, etc. However, the archeological methods perfected in Hawaii in the late nineteenth century have enabled us to recover sufficient material to make educated hypotheses. It is most likely that the writing system was created by priests (*kāhuna*) in the 15th or 16th century, probably in Oʻahu. The oldest stone markings yet found contain symbols that are clearly predecessors to letters of the alphabet, but some of them are not recognizable and none seem to spell out words. There is a vociferous debate between scholars as to whether these are early letter forms which we cannot decipher (the Hilo School) or they are pictographs which only later were used to create an alphabet (the Mānoa School).

The creators may have been specifically priests of one of the shark gods (perhaps Kauhuhu), since one of the letters derives from *īheʻekai*, a compound used by those priests as a body paint. Whichever priest or priests developed the alphabet, however, it seems to have quickly spread to all classes and ranks of the priesthood. Initially, it was used to incise single words (generally the name of a god or a chief) on the wooden posts, beams, or rafters of a temple. The earliest complete sentence that has been found is a prayer: “O Lono, bring rain”.

Dying tapa (a cloth produced from pounded mulberry bark, called *kapa* in Hawaiian) was already common, and at some point, it was realized that letters could be made on tapa with color. Incising on wood had produced angular symbols (“Wood letters”), but this was not a limitation on tapa, so “Tapa letters” had more curves.

The use of tapa, however, had a major and unintended consequence. Unlike the inscriptions in wood, tapa was easily transported. While only priests and sometimes chiefs had access to the temples where writing could be seen, tapa made it easy to show to anyone. The earliest tapa writing found to date is the name of an otherwise unknown Kahokuokalani. Initially, it was apparently used only by chiefs as standards, probably attached to *kāhili* staffs that were the emblems of nobility. This, however, created a problem for the priests.

In ancient Egypt, priests had developed a writing system that was cumbersome and incomprehensible to the uninitiated, and hieroglyphs were used on public monuments without fear that priestly secrets would be compromised. The priests of Hawaii, on the other hand, had created a simple writing system that they expected would never be used outside their secretive temples. Once it was brought out into the community, though, it was inevitably deciphered, first by the nobility and eventually by commoners.

For the nobility, writing was of immense importance because it enabled the documentation of genealogies, which were essential to maintaining political power based on hereditary rank. This was a problem for the priests whose skill at oral recitation and transmission of such genealogies was an integral part of maintaining their value in the eyes of the chiefs. On the other hand, having such documentation ensured the reliability of their oral tradition. In most areas, an uneasy compromise provided for chiefs to own one or more written documents, but forbidding recitation aloud unless chanted by a priest.

For commoners, the advent of writing enabled the documentation of rights to land use. Families had traditional exclusive rights to gather plants or other materials in a sustainable way from certain areas. The documentation of those rights reduced conflicts and allowed smoother inheritances. Little did they suspect that centuries later these documents would become critical tools in exerting the legal rights of Native Hawaiians over land sought or occupied by Westerners, especially during the British Mandate period, before the Kingdom regained its full independence in 1953.

Over the course of this period, the symbols originally used by priests had become simpler and more stylized, so that their original source could no longer easily be recognized. This orthography is known as Pre-Monarchy, since Kamehameha had not yet united the country under his rule.

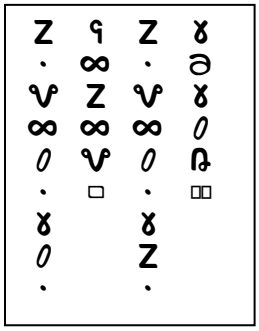
Perhaps just as important as the documentation of genealogies and land rights, possessing a written language may have buttressed the Hawaiian identity just as Western contact was beginning. Explorers and traders carried home reports of a sophisticated culture and samples of a written literature. China and Japan, in particular, admired the Hawaiians for writing in a civilized manner, in vertical columns top to bottom. While it also simplified the work of missionaries in learning the language and translating the Bible, the Hawaiians never felt that writing, which they valued so highly, was a gift, so to speak, from the West. Some scholars have even speculated that writing had a major impact on the strength of Hawaiian identity that later made possible the “Noʻa Nui” scheme which undermined American corporate intentions by keeping them engaged in negotiations while secretly inviting Britain to make the country a protectorate through a treaty that guaranteed Hawaii its own constitution and preserved the role of its monarch.

The final stage (so far) of the orthography's history began in 1819, when under the influence of Kaʻahumanu (the Queen Mother and effectively co-regent), King Kamehameha II (né Kalanikūaliholiho) radically transformed the nation's culture by eliminating the *kapu* system. Overnight, the entire religious establishment was overthrown. Among his reforms, the king proclaimed that writing was to be encouraged among all the people, whether noble or common, and to facilitate that he commanded that the alphabet be made as easy to learn and use as possible. The result is the modern Hawaiian orthography now in use.

The orthography consists of 27 letters, corresponding to a, ʻa, ā, ʻā, e, ʻe, ē, ʻē, i, ʻi, ī, ʻī, o, ʻo, ō, ʻō, u, ʻu, ū, ʻū, h, k, l, m, n, p, w. The creators of the alphabet apparently considered the glottal stop not as an independent consonant but as a characteristic of the following vowel. (Thus, one might say that the script is partially an alphabet and partially a syllabary.) The consonants are coincidently in the same order as in Latin-derived alphabets. Presumably h, k, and l were grouped together in order of point of articulation back to front, m and n grouped together as nasals, and p and w grouped as bilabials. Hawaiian is written vertically, top to bottom, left to right. There are no capital letters. A dot is used as a word divider, with two dots serving as a divider similar to comma or period. A square (□) separates sentences or paragraphs, and two squares separate sections. Normally words are not broken between lines. An interesting convention in writing Hawaiian is that the word for death, *make*, is always written as *mak*, without its final vowel, since spelling it in full is considered unlucky. In informal writing, the definite article *ka* or *ke* is often written as *k* without its vowel. There are a few ligatures, one of which combines *u* and *a*, used only for the perfective particle. Although Kākauna includes symbols for traditional numeration, the Hindo-Arabic numerals are now normally used.

Unicode has not yet assigned a block to Kākauna. A limited font has been created, but it is presently limited to the Kākauna alphabet and punctuation. The next version will include ligatures and numeration. In Microsoft Word, East Asian languages must be activated. In the document, under Page Layout, the Text Direction can be changed to "Vertical for Mongolian". (When Chinese, Japanese, or Korean are written vertically, the text blocks are right to left, while Mongolian is written, as is Kākauna, top to bottom, left to right.) For proper display, the images had to be rotated 90° in the font.

The chart below shows the form of letters in these historical stages. That is followed by two texts. The first is *Kānāwai Māmalahoe*, Law of the Splintered Paddle, which was promulgated in 1797 by King Kamehameha I and is now considered an impressively early formal protection of non-combatants during war. The second, as is customary, is the first article of the Universal Declaration of Human Rights.



E ola ka ʻōlelo. E ola ke kākau.
(Long live the [Hawaiian] language. Long live the [Hawaiian] script.)

Phoneme	Presumed Origin of Letter		"Wood" Orthography	Early "Tapa" Orthography	Premonarchy Orthography	Kamehameha II Orthography	Modern Font
A	apo	circle, hoop, loop					0
ʻA	ʻahu ʻula	royal feather cloak					ƍ
Ā	ānini	Eurya sandwicensis					ə
ʻĀ	ʻāmana	Y-shaped crosspiece					ɒ
E	elelo	tongue					Z
ʻE	ʻeho	stone pile					8
Ē	ēwe	sprout					ϕ

Phoneme	Presumed Origin of Letter		"Wood" Orthography	Early "Tapa" Orthography	Premonarchy Orthography	Kamehameha II Orthography	Modern Font
ʻĒ	ʻēheu	wing					ᗡ
I	iʻa	fish					ᐱ
ʻI	ʻihi	wood sorrel (Oxalis corniculata)					ᗷ
Ī	īheʻekai	turmeric and salt water daub					ᑊ
ʻĪ	ʻīlio	dog					ᐻ
O	olomea	Perrottetia sandwicensis					ᐅ
ʻO	ʻoiʻoi	thorn					ᚴ

Phoneme	Presumed Origin of Letter		"Wood" Orthography	Early "Tapa" Orthography	Premonarchy Orthography	Kamehameha II Orthography	Modern Font
Ō	ōpū	clump, cluster (as of bananas)					Ɛ
ʻŌ	ʻōlena	turmeric (curcuma domestica)					ϥ
U	ua	rain					ᑌ
ʻU	ʻulu	breadfruit					ʘ
Ū	ū	udder					H
ʻŪ	ʻūhā	thigh					ᙀ
H	hale	house					ᗰ

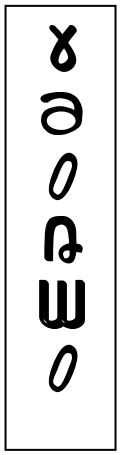
Phoneme	Presumed Origin of Letter		"Wood" Orthography	Early "Tapa" Orthography	Premonarchy Orthography	Kamehameha II Orthography	Modern Font
K	kumu lāʻau	tree					ɣ
L	lā	sun					∞
M	manu	bird					h
N	niho	tooth					ɯ
P	puaʻa	pig					ƅ
W	wai	water					ʍ

Kākauna Keyboard

	Q	W	E	R	T	Y	U	I	O	P	[	]	\
Shift													
	A	S	D	F	G	H	J	K	L	;	‘		
Shift													
	Z	X	C	V	B	N	M	,	.	/			
Shift													

The Kākauna keyboard currently available. Future versions will add ligatures and traditional numeration.

Sample texts for “Kākauna”, a conscript for Hawaiian

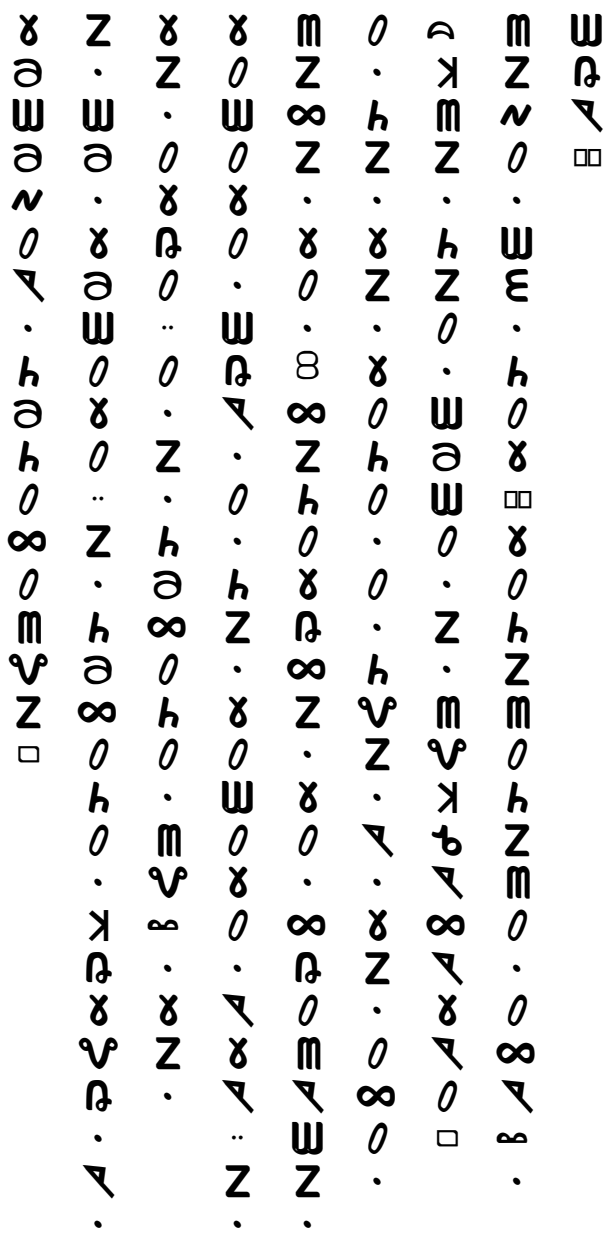


1. Law of the Splintered Paddle

   The text in this sample is spaced normally.

2. Universal Declaration of Human Rights, Article 1

   The text in this sample is aligned with justification, making each line of equal height.



Law of the Splintered Paddle (protecting noncombatants during war), 1797

Kānāwai Māmalahoe :	Law of the Splintered Paddle:
E nā kānaka, E mālama ʻoukou i ke akua a e mālama hoʻi ke kanaka nui a me kanaka iki. E hele ka ʻelemakule, ka luahine, a me ke kama a moe i ke ala ʻaʻohe mea nāna e hoʻopilikia. Hewa nō, make. Kamehameha I	O people, honor God; and care too for people great and small. Let the elderly man and the elderly woman and the child lie in the path without anyone troubling them. Break this law, and die. Kamehameha I

Universal Declaration of Human Rights,
Article 1
Hō’ike I Nā Pono Kīvila
O Ke Ao Nei,
Paukū 1

Hānau kū'oko'a 'ia nā kānaka apau loa,
a ua kau like ka hanohano
a me nā pono kīvila
ma luna o kākou pākahi.

Ua ku'u mai
ka no'ono'o pono
a me ka 'ike pono
ma luna o kākou,
no laila, e aloha kākou kekahi i kekahi.

All human beings are born free
and equal in dignity
and rights.

They are endowed with reason
and conscience
and should act towards one another in a spirit of brotherhood.