

STENO? GRAPHY!

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Abstract

Considering the scarcity of information and the lack of knowledge regarding stenography –very rarely used or called upon nowadays, both in daily and academic contexts – and given the decreasing number of people who hold this specific knowledge, it becomes increasingly urgent the creation of a relevant archaeological and bibliographic Iberian archive of this almost extinct writing form.

This text arose in the context of a master's degree aiming to study the universe of stenography and its relevance (if any) in contemporary contexts and technologies. To accomplish this, it was crucial to have access to reliable information regarding this writing form. This objective was pursued through a non-interventionist qualitative methodology that included methods such as bibliographic research, literature review and critique, interviews with experts in the field (namely stenographers, teachers, students) and in-depth case studies.

In this paper, we present the groundwork that enabled us to gather information about Portuguese shorthand which was of crucial importance to the development of the project. The bibliographic research revealed the existence of several Portuguese shorthand authors. Through in-depth research and a comparative study among various case studies, we observed that each shorthand system exhibited peculiarities, setting it apart from the others. This divergence was attributed to individual authors' endeavors to revolutionize the field of Portuguese shorthand, striving to establish their methods as the fastest and most effective. Noteworthy distinctions surfaced in areas such as the representation of the stenographic alphabet, the portrayal of numerals in text, the handling of articles, names, abbreviations, and suppressions, among other aspects. None of them provided evidence to determine the official Portuguese shorthand system. However, the interviews conducted revealed that the Martinian System was the official one. They also helped us gain insight into the teaching methods of shorthand employed in class, as well as the layouts students used to enhance writing efficiency.

Keywords: Graphic/Editorial Design; Typography; Stenography; Archive; Education

INTRODUCTION

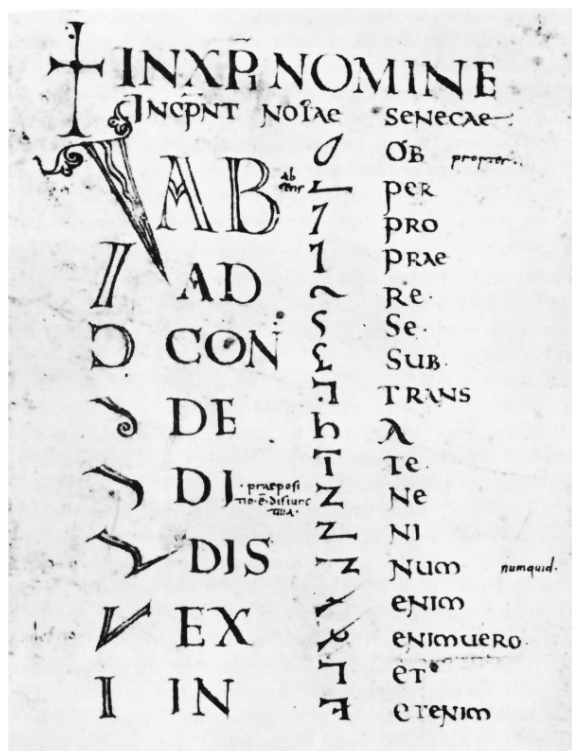


Fig. 1 The first writing system of Latin shorthand. Tironian glossary Codex Casselanus, 9th century (Norman, n.d.).

CONTEXT

What is shorthand? And why did humanity feel the need to create such a peculiar form of writing? To begin with, this term means abbreviated writing (Cantos, 1937, p.52; Póvoas, 1946, p.17). Different terms such as tachygraphy or stenography are also used to describe this practice. As for its usage, shorthand serves as a way to quickly annotate and write at the same speed as speech. In Roman Antiquity (lasting until the 20th century), it was mainly used for recording public lectures, and for quickly writing down the messages of the masters by their pupils (Parkinson,

2016). It was also considered a form of “private writing” due to the fact that if one can’t read a shorthand, the scribbles will look like strokes without any inherent meaning (McCay, 2021).

In the 18th century, the importance of good penmanship was widespread. However, as Drucker (1995) explains “while good handwriting was a standard business skill, elegant, well-formed writing could not serve all the needs of the commercial world with its myriad of rapid transactions and proliferating activities” (Drucker, 1995, p. 247). With the advent of industrialization and the mechanization of processes, speed and efficiency have become priorities. Thus, it is not surprising that with all the mutations at the core of both industrial and artistic practices, writing would undergo changes. In the fields of media and law, as well as in the boardroom and sales manager’s office, the demand for swift and accurate methods of recording speech emerged (Drucker, 1995, p. 247). Even as time passes by, shorthand ends up developing at the same rate as technology. We can see that in shorthand written by hand, evolving to inventions such as the stenotype or the dictaphone: an ancestor of the hand-held recorders attached to stenographic masks, a kind of microphone with a muting device invented in the 1940s (Gomes, 2016, p.309) etc. Although it continues to be used in increasingly narrow and niche contexts, (on the need for confidentiality, for example) we can see in real time how it is on the verge of being replaced by computer speech recognition and natural language processing technologies – innovations gradually implemented and strengthened through the algorithmic development of Machine Learning and Artificial Intelligence. However, according to Joanna Bryson (2021), there is still an issue of trust in these systems, and it will take time before it is accepted globally (Bryson, 2021). With that in mind, shorthand still offers an advantage to some contexts (such as the court and politics, for example) since it offers a degree of confidentiality that technology can’t provide. It is through digitization that we seek to explore the

limbo of possibilities between the fact that shorthand has not become yet extinct, but close to.

Remediation, according to Bolter and Grusin (1999), refers to the process of incorporating and repurposing components from older media formats into contemporary media technologies. The goal of remediation is to create a sense of immediacy, authenticity, and enhanced experience for users. Thus, in order to better understand this form of writing, and to mold it in a way that easily resonates and calls to people, we find advisable repurposing what shorthand was in the past to the present day, as reuse requires redefinition (Bolter & Grusin, 1999, p. 45).

The goal, within the scope of the master's degree, is not to bring back this form of writing in any way, shape or form. We recognize that writing in shorthand does not constitute an effective way, in the present day and age, of jotting down notes, considering the time span one must have to learn the craft and the technologies of speech recognition and transcription. The purpose of diving into this matter is to reflect upon what other usages could shorthand have, as also to better understand its morphology and structure, among other features. We look at steno pedagogy writings as a form of information design due to the intriguing variations in the approaches each author of the case studies (covered later in this paper) takes on the subject. Some of the topics that are recurrent in shorthand are presented in these books with varying orders, explanations, and distinctive depictions. Each base circle is shown in a different way; the tables, and the very way in which the hierarchy of information is presented can show us interesting details about how subjects were conveyed during that time and the solutions authors devised to organize such a complex subject.

Shorthand In Portugal

Stenography was introduced in Portugal during a challenging period in the country's history. Under the regency of D. João VI, Portugal faced a military conflict with Spain in 1801, and later it would be dealing with three Napoleonic invasions (in 1807, 1809 and 1810), forcing the Royal Family to take refuge in Brazil. The first work presented on this type of writing belonged to the Spaniard Pinto Rodrigues and was published in 1802, with the name "Universal and Complete System of Tachygraphy" (Ramos, 1950, p. 15). Since it was a failure, the government decided to hire Ângelo Ramon Martí to direct a stenography course, in 1820. It was he who ended up taking the helm of Portuguese Stenography, when he was hired to the General and Extraordinary Courts of the Nation and Master of the General Post Office class, at Calçada do Combro (Póvoas, 1946, p. 45). This is how the geometric method was introduced in Portugal, and in 1821, it was publicly practiced at the Sovereign Congress as the abbreviated writing system in Portuguese (Ramos, 1950, p. 15). In 1822, the first book of shorthand adapted to the Portuguese language was published, authored by Martí, who based it on his father's method (Francisco de Paula Martí). This association with Martí's method is the primary reason why the system is commonly referred to as the Martinian system or simply Martí. In Portugal, shorthand was more frequently applied in parliamentary life, namely in assemblies (Póvoas, 1946, p. 23). It was still growing in the 1950s and in the 1960s, with a Colonial War (1961-1974) that triggered the demand for professionals with a more targeted education for the state secretarial sector (Gomes, 2016, p. 314). In general, shorthand ended up speeding up the correspondence services in commercial and bureaucratic circles, in the registration of debates and depositions in courts, as also help journalists in taking their notes, as well as students in higher education (Póvoas, 1946, p. 23).

Analysis of shorthand systems

The logic of shorthand

Before proceeding with the analysis of the various shorthand systems identified in the research, it's important to understand what exactly happens when we write in shorthand. Although shorthand systems vary depending on the chosen method, there is a common underlying logic. For the sake of illustration, we will use Ramos shorthand system.

First and foremost, there is a foundational element, represented by fig. 2, which serves as the starting point for constructing the shorthand alphabet. The symbols derived from this foundational element are referred to as alphabetical signs (fig. 3). These alphabetical signs are categorized based on their sounds, implying that this particular system is phonetically based. It's worth noting that a single sign can correspond to various phonetic values.

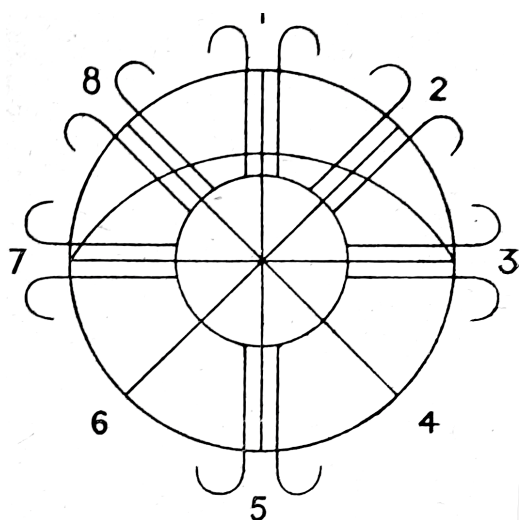


Fig. 2 Geometric base circle from which are extracted the alphabetical shorthand signs in Ramos system (based on Marti's) (Ramos, 1950, p.21).

Origem	Caractere	Nome	Valores fonéticos
1-5		{ c k q	quê, quê, que, qui
8-4	\	d	dê, dê, de, di
2-6	/	{ c s z	cê, cê, ce, ci, êce, êce, ice sê, sê, se, si, ês, ês, is zê, zê, ze, zi, êz, êz, iz
7-3	—	m	mê, mê, me, mi ême, ême, ime, em, im
7-5-3	∪	{ b v	bê, bê, be, bi vê, vê, ve, vi
7-1-3	∩	ch	chê, chê, che, chi xê, xê, xe, xi
1-3-5)	g	guê, guê, gue, gui
1-7-5	{	{ j g	jê, jê, je, ji gê, gê, ge, gi
7-1-3)	nh	nhê, nhê, nhe, nhi
8-1-5	∩	l	lê, lê, le, li êle, êle, ile, êl, êl, il
2-1-5	∩	p	pê, pê, pe, pi

Origem	Caractere	Nome	Valores fonéticos
8-7-3	∩	f	fê, fê, fe, fi êf, êf, if
3-2-6	∩	r	rê, rê, re, ri (r) êr, êr, ir
1-2-6	∩	n	nê, nê, ne, ni êne, êne, ine, en, in
7-8-4	∩	t	tê, tê, te, ti
1-8-4	∩	lh	lhê, lhê, lhe, lhi
4-5	∩	a	â, â, â, a, ah, ha
8-1-2	∩	e	ê, ê, e
1-5	∩	i	e = i (i)
1-3-5-7-1	○	o	ô, ô, o
6-5-4	∩	u	o = u

Fig. 3 Table displaying each sign, its corresponding sound, and potential phonetic values. In the first row, we find the numbers representing the sign in the basic geometric circle. The second row presents the visual representation of the sign. The third row contains the sound associated with that sign, while the fourth row provides its phonetic possibilities (Ramos, 1950, p.23-24)

If we were to write the word "author" in shorthand it would look something like this:

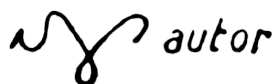


Fig. 4 Word "author" in shorthand and Portuguese (Ramos, 1950, p.25).

However, simply replacing letters with their corresponding alphabetic signs is not sufficient for effective shorthand writing. This is where synthetic signs, also known as sounds, come into play. Synthetic signs encompass a broader range of sounds depending on their position within a word. They can serve as initial sounds at the beginning of a word, final sounds at the end of a word, or arbitrary sounds within a word. The following tables showcase the various initials, arbitrary or final sounds that exist:

SONS INICIAIS (Quadro n.º 2)

Caracteres	Valores fonéticos
•	ins
-	em, im, en, in
	com, cum, con, cun, (cra)
\	des, dis, diz, (dra)
∩	encon
∪	indes
∩∪	desin
∪∩	descon
∩∪∩	condes
∩∪∩∪	cons, conc, const
∩∪∩∪∩	tar, tra, tras, trans
∩∪∩∪∩∪	contra
∩∪∩∪∩∪∩	sub, sob, sôbre
∩∪∩∪∩∪∩∪	circuns
∩∪∩∪∩∪∩∪∩	supra, super
∩∪∩∪∩∪∩∪∩∪	par, pra, pla, para
∩∪∩∪∩∪∩∪∩∪∩	far, fra, fla

Fig. 5 Ramos Table of initial Sounds (Ramos, 1950, p.36).

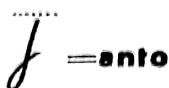
SONS FINAIS E ARBITRÁRIOS (Quadro n.º 3)

Caracteres	Valores fonéticos	Caracteres	Valores fonéticos
∩	anto	∩∪	arso
∪	ato	∩∪∩	ar
∩∪	alto	∩∪∩∪	avel
∩∪∩	asto	∩∪∩∪∩	ano
∩∪∩∪	ação	∩∪∩∪∩∪	aco
∩∪∩∪∩	afo	∩∪∩∪∩∪∩	algo
∩∪∩∪∩∪	arto	∩∪∩∪∩∪∩∪	ampo
∩∪∩∪∩∪∩	aio	∩∪∩∪∩∪∩∪∩	ado
∩∪∩∪∩∪∩∪	alvo	∩∪∩∪∩∪∩∪∩∪	aro
∩∪∩∪∩∪∩∪∩	alo	∩∪∩∪∩∪∩∪∩∪∩	avo
∩∪∩∪∩∪∩∪∩∪	asso	∩∪∩∪∩∪∩∪∩∪∩∪	ando
∩∪∩∪∩∪∩∪∩∪∩	acho	∩∪∩∪∩∪∩∪∩∪∩∪∩	anso
∩∪∩∪∩∪∩∪∩∪∩∪	ago	∩∪∩∪∩∪∩∪∩∪∩∪∩∪	mente
∩∪∩∪∩∪∩∪∩∪∩∪∩	adade	∩∪∩∪∩∪∩∪∩∪∩∪∩∪∩	assimo
∩∪∩∪∩∪∩∪∩∪∩∪∩∪	apo	∩∪∩∪∩∪∩∪∩∪∩∪∩∪∩∪	grafia
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		∩∪∩∪∩∪∩∪∩∪∩∪∩∪∩∪∩∪	apto

Nota — O ponto não faz parte do signo. Serve para indicar o começo.

Fig. 6 Ramos Table of final and arbitrary sounds (Ramos, 1950, p.38).

Each sign featured in these tables can represent even more sounds. For instance:



**anto, ento, into, onto, unto,
antro, entro, intro, ontro, untro**

Fig. 7 Phonetic possibilities of the sign "anto" (Ramos, 1950, p. 42).

As a result, it is primarily through the context of the phrase that individuals must base their work, deciphering the precise meaning of shorthand symbols.

Methodology

To better comprehend Portuguese shorthand, searches were carried out in archives, libraries and second-hand bookshops across the country. The objective was to gather books and manuals that were readily available for pickup, borrowing, or purchasing. This approach resulted in a sample of four manuals:

- “Estenografia Portuguesa” by Leopoldo de Carvalho (1927);
- “Esteno” by Paulo de Cantos (1937);
- “Tratado de Estenografia” by Francisco Póvoas (1946);
- “Practical Stenography” by José Ramos (1950).

	Leopoldo de Carvalho 1927 // 3ª edição	Francisco Póvoas 1946	Paulo de Cantos 1937	José Ramos 1950
ALFABETO	<ul style="list-style-type: none"> - Sistema Geométrico - Sistema Fonético - Baseado no sistema Marf - Separa o "N" e o "NH". Ambos têm signos próprios. O NH é disponível. Apesar de representado no alfabético estenográfico, não é aplicado na prática, porque os sons facilmente o incluem. 	<ul style="list-style-type: none"> - Sistema Geométrico - Sistema Fonético - Baseado no sistema Marf - Os estenogramas são muito semelhantes aos de Leopoldo de Carvalho (partilham da mesma base) - O "N" e o "NH" são representados pelo mesmo signo 	<ul style="list-style-type: none"> - Sistema Geométrico - Sistema Fonético - Método criado pelas terminações características de cada letra 	<ul style="list-style-type: none"> - Sistema Geométrico - Sistema Fonético - Separa o N do NH. Ambos têm signos próprios. - O "N" e o "NH" têm signos próprios. - O "H" não tem som quando é inicial e portanto em estenografia não se inicia e
VOGAIS & CONSOANTES	<ul style="list-style-type: none"> - Determina valores fonéticos para cada família de palavras (consoantes; vogais) e alberga as letras de som semelhante representadas pelo mesmo signo. - As consoantes podem ter vários valores fonéticos. A sua determinação é feita através de contexto. (as vogais são excluídas sempre que possível das palavras. Acentos são eliminados.) - As vogais representam-se aproximadamente pela terça parte das consoantes - O "a" pode ter 2 sentidos de desenho dependendo do que o antecede e o que o sucede. 	<ul style="list-style-type: none"> - Determina valores fonéticos para cada família de palavras (consoantes; vogais) e alberga as letras de som semelhante representados pelo mesmo signo; - As vogais são menores que as consoantes o que também sucede com o arco NH 	<ul style="list-style-type: none"> - Determina valores fonéticos para cada família de palavras (consoantes; vogais) e alberga as letras de som semelhante representados pelo mesmo signo. 	<ul style="list-style-type: none"> - Suprimem-se as vogais "e" e "r" por virtude das consoantes terem esse valor fonético (excluindo ditongos). - Omite-se o "c", "p" e "g" nas palavras factopacto, ignoro respectivamente - Omitem-se certos ditongos ou substituem-se por uma vogal
PONTUAÇÃO	<ul style="list-style-type: none"> - Não há letras maiúsculas 	<ul style="list-style-type: none"> - Não há diferença entre maiúsculas e minúsculas 	<ul style="list-style-type: none"> - Excluem-se as letras maiúsculas - Em vez de se utilizar o ponto de interrogação é usado "sim ou não" que se reduz a "sn" 	<ul style="list-style-type: none"> - Toda a pontuação é omitida à excepção do ponto final, representado por um traço oblíquo traçado de cima para baixo, da direita para a esquerda. Pode ser omitido
NUMERAÇÃO	<ul style="list-style-type: none"> - Não se estenografam números 	<ul style="list-style-type: none"> - Não se estenografam números 	<ul style="list-style-type: none"> - Estenografam-se números. Substitui-se pelos seus sinais iniciais característicos e dominantes 	<ul style="list-style-type: none"> - Não se estenografam números, porém quando são superiores a mil e inteiros coloca-se um pequeno traço na parte superior da unidade milhar e dois na de milhão.
DATAS	<ul style="list-style-type: none"> - Não se estenografam números - Os meses são estenografados (porque são nomes comuns) 	X		<ul style="list-style-type: none"> - Os meses devem representar-se pelo número de ordem que lhe pertence, dentro do ano, quando se queira indicar uma data (?). Utiliza-se os algarismos na mesma, tal e qual a marcação de uma data mas a lógica é diferente.
ABREVIATURAS / SUPRESSÕES	<ul style="list-style-type: none"> - Grupos de sons (terminais, indistintos e iniciais). - Supressão do "n" e "r" quase sempre (menos quando formam ditongo) - Não se repetem letras com sons comuns (ss,ç,çh,ete) 	<ul style="list-style-type: none"> - As vogais "e" e "r" suprimem-se quase sempre (menos quando formam ditongo, sejam acentuadas, isoladas, ou terminarem uma palavra, na segunda pessoa do singular do presente do indicativo do verbo ser, ou quando a abreviatura exija a sua inclusão) - Não se repetem letras com sons comuns (vogais longas etc) - Agrupa certos sons juntos (terminais invariáveis, iniciais invariáveis, variáveis) e atribui a esse conjunto um signo. - Abreviaturas regulares, irregulares e mistas 	<ul style="list-style-type: none"> - Em vez de se utilizar o ponto de interrogação é usado "sim ou não" que se reduz a "sn" - As abreviações são feitas com base nas próprias nuances e características da língua portuguesa foneticamente - O "o" torna-se "u" 	<ul style="list-style-type: none"> - Signos sintéticos // Agrupamento de Sons. Está dividido em: Sons iniciais, Finais e Arbitrários.

Fig. 8a System's Table (Image by the Authors).

PRONOMES	<ul style="list-style-type: none"> - Os pronomes pessoais são todos representados por um traço no estenograma. Um ou dois traços indicam um ou dois pronomes ou a existência das referidas palavras (me, te, se, nos vos // the, thee, o, a, os, as). São colocados no sítio mais conveniente - Sempre que um som abrange um pronome, escreve-se o som e não o verbo no infinitivo cortado pelo pronome. Despreza-se certas regras que possam obstar a velocidade, compreensão e fácil tradução dos estenogramas. - Não parece existir uma lógica por de trás da inclinação dos traços, como acontece no livro da estenografia prática 	<ul style="list-style-type: none"> - Os pronomes pessoais são todos representados por um traço no estenograma e podem ser qualquer pronome pessoal. Um ou dois traços indicam um ou dois pronomes ou a existência deles. - Não há indicação de que a inclinação dos traços signifique alguma coisa... nem há explicação propriamente dita de como a pessoa é suposto adivinhar que pronome está representado. 	<ul style="list-style-type: none"> - Apenas se deve empregar o "você" através da abreviatura "V" 	<ul style="list-style-type: none"> - As formas pronominais são representadas por pequenos traços cortando o signo mais conveniente do estenograma da palavra a que estão ligados. Este pequeno traço deve ter a inclinação do signo inicial do pronome respectivo - Os pronomes demonstrativos "o, a, os, as" quando ligados a um verbo estenografam-se com um traço vertical - Os pronomes demonstrativos "lo, la, los, las" são escritos do mesmo modo. A diferença é que o verbo tem de estar no infinitivo.
NOMES	<ul style="list-style-type: none"> - Nomes próprios e comuns devem ser escritos com abreviaturas caligráficas e são estenografados 		<ul style="list-style-type: none"> - Não se estenografam, apenas se abreviam ao ponto em que não ponham em risco a tradução. Acontece o mesmo com os estrangeirismos. 	<ul style="list-style-type: none"> - Os nomes próprios ou estrangeirismos podem ser estenografados ou escritos de modo vulgar por extenso ou abreviado. Quando são estenografados deve sublinhar-se o estenograma.
VERBOS			<ul style="list-style-type: none"> - Só existe 3 formas verbais - infinitivo, futuro e passado. (Eu ser; V. ser ele ser. Eu a ser. V. a ser etc) 	
ADVÉRBIOS			<ul style="list-style-type: none"> - A terminação "mente" limita-se a ser alongada a um "m". - Advérbios de afirmação limitam-se ao "q" - Advérbios de dúvida -> "en" - Advérbios de negação "n" 	
PROPOSIÇÕES			<ul style="list-style-type: none"> - Suprimem-se quase todos (por -> p; com -> c) 	
CONJUNÇÕES	<ul style="list-style-type: none"> - A conjunção "e" escreve-se "r" 		<ul style="list-style-type: none"> - Reduzem-se as adverbais ao mas -> ms - Conclusivas -> donde, dnd - Causais -> porque, pq 	
INTERJEIÇÕES			<ul style="list-style-type: none"> - Desaparecem 	
ADJETIVOS		<ul style="list-style-type: none"> - Os adjetivos são invariáveis em género, firmando-se a forma masculina. Quanto ao número, singular. 		
ARTIGOS	<ul style="list-style-type: none"> - Todos os sons representam o masculino, feminino, singular e plural 	<ul style="list-style-type: none"> - O final do estenograma dispensa o emprego de qualquer signo para nos indicar o género, número, formas verbais ou semelhantes. O artigo indica-nos toda a flexão. 	<ul style="list-style-type: none"> - Os adjetivos são invariáveis em género, firmando-se a forma masculina. Quanto ao número, singular. 	<ul style="list-style-type: none"> - O final do estenograma dispensa o emprego de qualquer signo para nos indicar o género, número, formas verbais ou semelhantes. O artigo indica-nos a flexão.

Fig. 8b System's Table (Image by the Authors).

Afterwards, the systems described in those manuals were analyzed and observed with the primary goal of gaining a comprehensive understanding of each one. This involved a detailed study and analysis of their rules and unique characteristics. Additionally, with the help of the interviews conducted, it was possible to clarify any uncertainties that emerged during individual study sessions.

For a better understanding of all the information gathered, two tables were created, allowing us to structure and make comparisons effectively:

– **System's Table:** Designed to not only consolidate common points but also highlight differences between the

systems. Topics were made based on common themes and essential points pertinent to the structure of the systems. For instance, topics such as "alphabet," "vowels/consonants," "punctuation," and "dates" were identified as key areas covered in the table.

– **Diagrammatic Tables:** These tables aimed to compare how information was organized and presented graphically across the different systems. It included fundamental diagrams of each system, shorthand sign tables, and example sentences written in shorthand.

These tables played a crucial role in synthesizing the findings, enabling a thorough examination of the systems' similarities and differences. Below, we present the respective tables:

In the case of Leopoldo de Carvalho, although the 'NH' sign is present in the stenographic alphabet, it is often omitted in practice due to the ease with which the sounds encompass it.

Among all these systems, the one that stands out the most in several aspects outlined in the authors' table is Paulo de Cantos' method. The alphabet of Canto's system is unique in that it relies on the distinctive endings for each letter instead of Marti's geometric circles (fig.15). Despite this deviation from the geometric foundation, its method can be considered geometric in essence, behaving similarly. Each alphabetic sign still corresponds to a specific sound, maintaining its phonetic nature. Cantos' approach was considered radical and highly simplified for its time. However, due to the limited circulation of his publications, his method never gained prominence in the capital's publishing circuit and, consequently, remained unrecognized (Gomes, 2016, p.308-309).

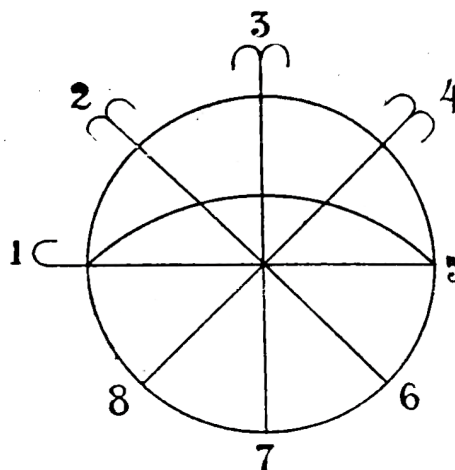


Fig. 13 Circle from which the alphabetical stenographic signs of Leopoldo's system are taken (based on Marti's) (Carvalho, 1927, p.4).

- A** ʌʌ É tirado da linha curva de 5 a 6.
- B-V** ∪ É formado pelo semicírculo inferior de 1 a 5.
- Ç-S-SS-Z** / É tirado do diâmetro oblíquo de 4 a 8.
- D** \ É tirado do diâmetro oblíquo de 2 a 6.
- E** ∩ É tirado do semicírculo superior de 1 a 5.
- F** ← É tirado do diâmetro horizontal de 1 a 5.
- G** ∪ É tirado do semicírculo direito de 3 a 7.
- I** ↔ Traça-se de três modos. É tirado do diâmetro vertical de 3 a 7, do diâmetro horizontal de 1 a 5, e do diâmetro oblíquo de 2 a 6.
- J** ∩ É tirado do semicírculo esquerdo de 3 a 7.
- L** ∩ É tirado do diâmetro vertical de 3 a 7.

Fig. 14 Alphabetic signs taken from the geometric circle of Leopold's method with their respective sounds (Carvalho, 1927, p.4)

Lista das letras conhecidas *, derivações **, e respectivos sinais taquigráficos ***

a	á	ã	i	í	í	π	π	-
l	l	l	j	j	j	ϑ	ϑ	-
ç	ç	ç	λ	λ	λ	σ	σ	σ
o	o	o	m	m	m	τ	τ	τ
æ	æ	æ	n	n	n	υ	υ	υ
f	f	f	o	o	o	υ	υ	υ
g	g	g	ρ	ρ	ρ	x	x	x
h	h	h	ϑ	ϑ	ϑ	z	z	z

lua comprida voltada para a direita, como a abertura dum parêntesis, escrita de cima para baixo.

Fig. 15 Alphabetic signs from Canto's system, taken from the endings of the words themselves (Cantos, 1937, p.38).

Vowels and consonants

In shorthand, vowels and consonants exhibit distinct relationships. While vowels are omitted whenever feasible, consonants can represent multiple phonetic values. This is because letters with similar sounds, such as "b" and "v," are denoted by a single alphabetic sign. Consequently, these signs can have various meanings depending on the context (e.g. the stenographic sign for "b/v" can signify: be, bé, bê, bi, ve, vé, vê, vi, as depicted in fig.16).

In stenographic writing, consonants and vowels can be distinguished by their size. Typically, vowels, essential for comprehending the message, are represented at approximately one-third the size of consonants (Carvalho, 1927, p.3).

QUADRO N.º 1 -- por grupos de figura

Origem	Caractere	Nome	Valores fonéticos
1-5		{ c k q	qué, què, que, qui
8-4	\	d	dé, dè, de, di
2-6	/	{ c s z	cé, cè, ce, ci, éce, éce, ice sé, sè, se, si, és, és, is zé, zè, ze, zi, éz, éz, iz
7-3	—	m	{ mé, mé, me, mi éme, éme, ime, em, im
7-5-3	∪	{ b v	bé, bê, be, bi vé, vè, ve, vi
7-1-3	∩	ch	{ ché, chè, che, chi xé, xè, xe, xi
1-3-5)	g	gué, guè, gue, gui
1-7-5	∪	{ j g	jé, jè, je, ji gé, gè, ge, gi
7-1-3	∩	nh	nhé, nhè, nhe, nhi
8-1-5	∩	l	{ lé, lè, le, li éle, éle, ile, él, él, il
2-1-5	∩	p	pé, pè, pe, pi

Fig. 16 Ramos table of alphabetic signs and their respective phonetic variations (Ramos, 1950, p.23).

These principles are largely consistent across most systems, with only a few minor peculiarities, such as:

- In **Póvoas'** work, not only are vowels represented in a smaller size than consonants, but the same applies to the alphabetic sign "NH."
- In **Ramos'** system, the consonants "c," "p," and "g" are omitted in the words "facto," "pacto," and "ignoro," respectively. Additionally, certain diphthongs are omitted or replaced by a vowel (e.g., "quer" -> "q/ra") (Ramos, 1950, p.29).

Punctuation

Most shorthand systems forego the use of punctuation. In most cases, capital letters are nonexistent, or there is no differentiation between uppercase and lowercase letters.

However, recognizing the occasional need to denote questions and answers, Paulo de Cantos suggests employing "yes or no" instead of the question mark, condensed to "sn" (Cantos, 1937, p.42).

In the system devised by José Ramos, all punctuation is omitted except for the period, which is indicated by a diagonal line drawn from top to bottom, moving from right to left (fig.17). Nevertheless, this is not a strict rule and can also be omitted as needed (Ramos, 1950, p.33).

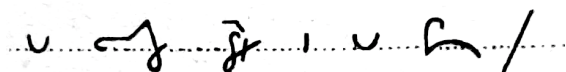


Fig. 17 Example of a shorthand sentence with the stroke at the end representing the period (Ramos, 1950, p.42)

Numeration and dates

It is widely agreed between systems that numbers are not to be stenographed. However:

- In **Cantos’** system, numbers are in fact stenographed and represented by their characteristic and dominant initial sign;
- In **Ramos’** system, numbers are not stenographed, but when they are whole numbers greater than a thousand, a small dash is placed at the top of the thousand unit and two in the million unit.

As for dates, months are shorthanded because they fall in the grammatical category of "Names". However, Ramos has a distinctive approach to dating. In this system, months must be represented by their order number within the year when indicating a date. If it is necessary to indicate the month in isolation,

it can be handwritten or underlined when stenographed. Additionally, if the year falls before or after the current century, it is represented with hundred (Ramos, 1950, p.84).

Abbreviations

The exclusive use of stenographic alphabetic signs proves to be insufficient when in pursuit of achieving adequate writing speed. Consequently, a set of phonetic abbreviations was developed to eliminate the constant reliance on alphabetic symbols. Leopoldo de Carvalho categorized these abbreviations into three distinct groups:

- 1. Initial Sounds:** These abbreviations are applicable only at the beginning of a word.
- 2. Indistinct Sounds:** These abbreviations can be applied anywhere within a word.
- 3. Terminal Sounds:** These abbreviations are utilized at the end of a word.

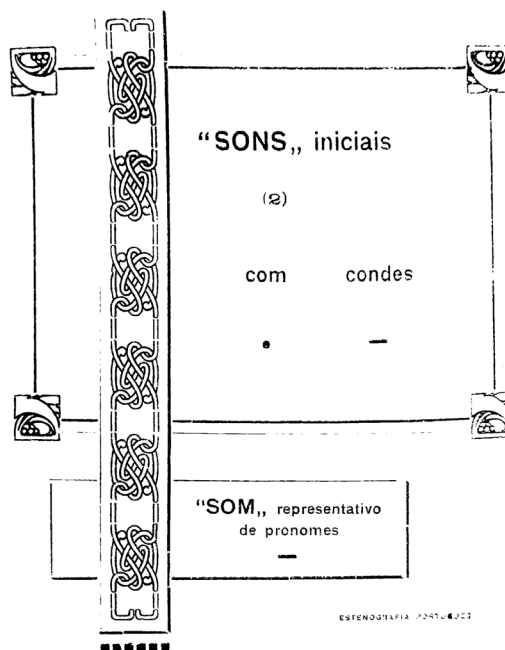


Fig. 18 Initial Sounds of Leopoldo de Carvalho (Carvalho, 1927, p.45)

Notably, Leopoldo's method stands out due to its inclusion of only two initial sounds that correlate with each other. This distinction is unconventional when compared to other methods, which typically incorporate a broader range of sounds categorized as "initial" (as illustrated in Fig.18 and Fig.5). Leopoldo's approach involves the omission of the vowels "e" and "i" in most cases, except when they form a diphthong. Additionally, letters representing common sounds, such as "ss," "çç," and "ch," are not duplicated.

A similar rationale is employed in Póvoas's system. Here, the vowels "e" and "i" are consistently omitted, even in accented or isolated words. Exceptions include words ending in the second person singular of the present tense of the verb "ser" (to be) or situations where the abbreviation needs their inclusion.

In the realm of phonetic abbreviations, Francisco Póvoas further classified them into three categories:

- 1. Invariable Endings:** These phonetic abbreviations are applied exclusively at the end of words.
- 2. Initial Invariables:** These phonetic abbreviations are utilized solely at the beginning of words.
- 3. Variables:** These phonetic abbreviations can be applied anywhere within a word.

He then lists abbreviations for the most frequently used words, classifying them as:

- **Regular**, if they follow the structure of the word;
- **Irregular**, if they derive from conventional forms or signs adopted in international or common usage (symbols such as +,%,=, etc.);
- **Mixed**, if they participate in conventional uses of internationalized forms and the structure of words.

Conversely, Paulo de Cantos relies on the nuanced characteristics of the Portuguese language, employing phonetic representations of eight Portuguese dialects to create specific abbreviations. These dialects encompass variations from

various regions, such as the insular dialects from Porto Santo, Madeira, and the Azores. For instance, in the islands, "o" transforms into "u" in words like "flur" and "amur." In the Azores, "ão" is simplified to "ã," while in Madeira, "inha" is replaced by "enha" – resulting in words like "pontenha" instead of "pontinha," and a pronunciation shift for "coisa" into an approximate diphthong, sounding like "côasa" (Cantos, 1937, p. 56).

These eight dialects are derived from regions including the islands of Porto Santo, Madeira, and the Azores, as well as countries which are former Portuguese colonies such as Guinea, Angola, Mozambique and Brazil, or other regions once occupied by Portuguese such as Goa, Daman, Diu, Ceylon, Macau, Malacca. Regions in North America with considerable Portuguese communities are also included (Cantos, 1937, p. 59).

Ramos categorizes these phonetic abbreviations using synthetic signs, sorting them into initial, final, or arbitrary sounds. He likens these abbreviations to prefixes within words and classifies them based on their placement within the word itself (Ramos, 1950, p. 35).

Names

Names are typically abbreviated and stenographed in various shorthand systems:

In Leopoldo's method, both proper and common names are required to be written with abbreviations (initial, terminal, or indistinct) and stenographed.

Under the Ramos method, proper names or foreign terms can be either shorthanded or written in their complete form, and they may be abbreviated or not. When they're abbreviated, the shorthand form should be underlined.

Within the Póvoas system, proper nouns such as names, surnames, continents, seas, islands, countries, and proper noun

phrases like “Rio de Janeiro” or “Luís de Camões” are not typically abbreviated, although there’s room for abbreviation without compromising translation.

Regarding gender-specific forms, the translation considers the preceding word when dealing with names. However, this isn’t an inflexible rule, and proper names, even proper noun phrases, might occasionally be abbreviated, typically indicated by underlining to denote their uncommon nature. The same approach applies to foreign words.

Articles

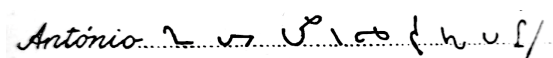


Fig. 19 Application of name in a sentence, example (Ramos, 1950, p.45)

The relationship between gender and number is consistent across all systems and is determined by the article that precedes the noun (o/a/os/as). For instance, in an example from Paulo de Cantos, the common noun “menino” would be “menin”, with the definite article indicating the gender.

Adjectives

In the Cantos system, adjectives remain invariant in gender, typically favoring the masculine form as the norm. Additionally, they tend to adhere to the singular number. Conversely, in the other systems, there doesn’t appear to be a specific preference regarding this aspect.

Verbs

The majority of verb forms are abbreviated in shorthand. However, in the Cantos system, the author simplifies them down to three specific forms: Infinitive; Future; Past. For instance: “Eu ser” (I to be), “V. a ser” (You will be), “Ele ser” (He to be), and so on.

Adverbs

The adverbs are shorthanded, often replaced by particular abbreviations that are consistently employed. In Cantos’s system, there are specific instances such as: The suffix “mente” is generally abbreviated to just “m”; Adverbs indicating affirmation are represented by “ç”; Adverbs expressing doubt are indicated by “çn”; Adverbs indicating negation are represented by “n”.

Prepositions

The prepositions are replaced with phonetic abbreviations as stipulated in each manual. However, Paulo de Cantos takes it a step further by significantly reducing most prepositions. For instance, “por” is shortened to “p,” and “com” becomes “c” (Cantos, 1937, p.78).

Pronouns

Generally, pronouns are depicted by a dash cutting through the stenogram. In the Póvoas system, all personal pronouns are represented using this method, encompassing any personal pronoun. The number of dashes within the stenogram directly corresponds to the quantity of pronouns it signifies (for instance, 2 dashes denote 2 pronouns).

Leopoldo de Carvalho’s system follows a similar approach, although it doesn’t encompass all pronouns. Instead, it outlines a specific list: me, te, se, nos, vos // lhe, lhes, o, a, os, as. Notably, this summary omits demonstrative pronouns like lo, la, los, las (found in other methods). Additionally, it doesn’t specify which pronoun is being used in the stenographic sentence, relying on context for decoding. While pronouns are theoretically written, in practice, they are occasionally omitted. To cite Leopoldo de Carvalho: “Whenever a sound encompasses a pronoun, the sound is written and not the verb in the infinitive cut off by the pronoun, because, since shorthand is essentially

phonetic writing and is therefore intended to reach the spoken word, certain rules that might hinder its indispensable speed, comprehension, and easy translation of stenograms are disregarded as much as possible" (Carvalho, 1927, p.42).

In practical use, the emphasis is placed on sound over the explicit representation of the pronoun.

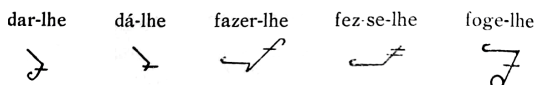


Fig. 20 Pronouns, Leopoldo de Carvalho (Carvalho, 1927, p.42).

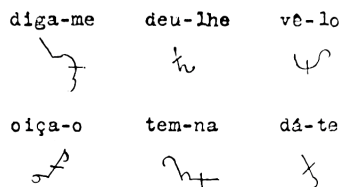


Fig. 21 Pronouns, Francisco Póvoas (Póvoas, 1946, p.87).

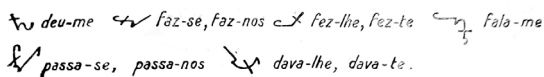


Fig. 22 Pronouns, José Ramos (Ramos, 1950, p.31)

In Ramos' system, pronominal forms are depicted using strokes, where the inclination of the stroke indicates the pronoun, it refers to. The inclination must match the initial sign of the respective pronoun (Ramos, 1950, p.31). Demonstrative pronouns like "o, a, os, as," when linked to a verb, are shorthand using a vertical stroke. However, for demonstrative pronouns "lo, la, los, las," in addition to being written similarly, the verb must be in the infinitive to differentiate them from the demonstratives (Ramos, 1950, p. 31).

Within Cantos's system, the author prioritizes simplifying this category of words. Consequently, "any special treatment of

either the second person singular or plural, always using the direct - Você (...) represented by the abbreviation V" (Cantos, 1937, p. 74).

Conjunctions

It's widely accepted that the conjunction "e" transforms into "i" when connecting sentences.

While other authors do not delve deeper into this aspect, Cantos takes the opportunity to further condense this grammatical category. He argues that "the 8 adversatives can be condensed to 'but,' represented by the signs 'ms.' The 8 conclusives can be shortened to 'donde,' 'dnd.' The 8 causatives can be condensed to 'because,' represented by the 'pq' signs. The frequent usage of 'q' prompted my inclination to sympathize with it by omitting the last two letters" (Cantos, 1937, p. 78-79).

Interjections

Interjections aren't typically employed within the context of composing business letters, thus receiving less attention from the authors in their studies. Quoting Paulo de Cantos, "No one will, of course, use them over the wires of the telegraph, so the innocent question will not be iconoclastic: What kind of world would it be if, by means of a beneficial earthquake, all interjections would disappear urbi et orbi?" (Cantos, 1937, p. 73).

The Official System

Considering that this practice has become almost obsolete over the years, and that the information available is therefore scarce (especially the one addressing Portuguese shorthand), we used interviews to find out and confirm the official shorthand system used in Portugal¹, as well as its technical

¹ In the section titled "Methodology", we identified some shorthand systems used in Portugal which were: "Estenografia Portuguesa" by Leopoldo de Carvalho (1927); "Esteno" by Paulo de Cantos (1937); "Tratado de Estenografia" by Francisco Póvoas (1946); "Estenografia Prática" by José Ramos (1950).

aspects. A semi-structured interview or qualitative interview, as advocated by Mason (2018, p.62), was chosen as method.

The primary objectives were to gather information on:

- The teaching of stenography;
- The official system of shorthand used in Portugal;
- The heritage of stenography in Portugal.

We sought to interview people who have had a direct relationship with this practice. Therefore, we sought teachers or former students who had attended courses where shorthand was taught. The structure of the interviews was flexible with the possibility of spontaneous questions. In total, two interviews were conducted: one with a former student and the other with a former teacher.

As previously stated, shorthand in Portugal was mainly used in the parliament life, in court, and in the secretarial sector of various enterprises. The reason for this was that companies had started to recognize the benefits of having stenographers in their teams who could write records of the meetings that were held and also write business letters. In order to form these professionals, there were courses that one could take to fill up these roles. Through interviews held in Aveiro to specialists in the area (former teachers and students of portuguese shorthand) it was understood that the course that people could take to perform those duties was called *Curso de Secretariado e Relações Públicas*² at the Industrial and Commercial School of Aveiro.

It was through interviews that we could figure out how shorthand education was conducted and what the official system was, which was confirmed to be the Martinian system. In class, the teacher would dictate the text while students had to write in shorthand what was being said. The other way around happened as well: the teacher would give students a shorthand text and they had to translate it to normal writing.

At the time, classes weren't followed by a general compendium. Each teacher ended up compiling their own manual, with the information they saw fit to teach their students. A mimeograph machine was used as the printing method in the production of these books. The images that follow showcase class notes from one of the interviewees.

In class, the writing of shorthand was always done by pencil (students were obliged to have two pencils ready, just in case one of them broke). The paper used was A4, in which students would make a longitudinal crease. They would not write through the full width of the paper as the movement of the hand going back to the beginning of the paper would be enough to make them lose precious time. The ideal writing speed would be 120 words per minute. The time it took to be fluent in this type of writing was long, taking usually 3 to 5 years of learning. Thankfully, it was possible to gather information in relation to all the topics proposed for the interviews. In general, the answers given were intrinsically similar, differing only in some technical details which were easily clarified by one of the experts. Thus, we obtained not only a social, but also a technical framework about the application and teaching of shorthand in Portugal. With them, it was possible to conclude that Marti's system was the one adopted by Portuguese commercial schools; how classes were structured and which exercises were done, as also the materials used. It was also interesting to know the relationship that specialists had and have with shorthand today, and who uses it as a way of secrecy and play. It was discovered as well that students instinctively developed page layouts to enhance writing efficiency while organizing information within them.

Conclusion

The bibliographic research disclosed the names of Leopoldo de Carvalho, Paulo de Cantos, Francisco Póvoas, and José Ramos, relevant authors in Portuguese shorthand. It

² Secretarial and Public Relations Course, F.T.

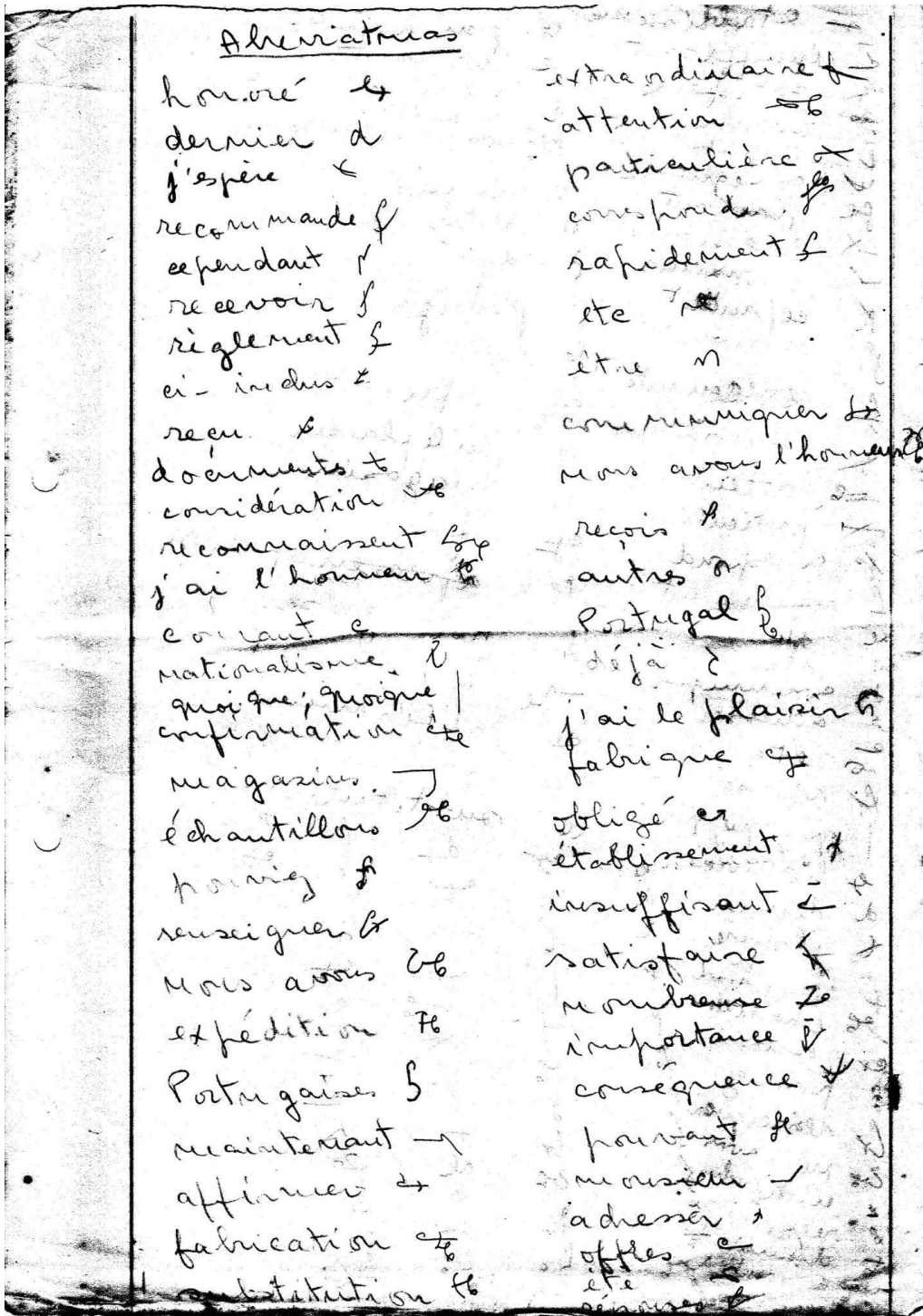


Fig. 23 A class note about shorthand abbreviations and the respective shorthand symbols.¹

3 Fig. 23, 24 and 25 are images provided by the interviewees.

Sons Vocálicos Estenografia em Francês

a) Os signos usados são o já estudado, aqueles do que representa o som u francês como na palavra lu é

b) O ditongo francês oi como na palavra foi é representado por um signo formado pela ligação dos correspondentes aos sons Portugueses o e a oy (foi)

c) Da mesma forma o ditongo francês eu como em feu representa-se por um signo formado pela ligação dos correspondentes aos sons portugueses e e u eu é feu h

Nota: Só interessa o estudo do emprego dos signos representativos dos sons vocálicos incluindo os ditongos acima mencionados, no fim das palavras visto que as prescrições são geralmente abrangidas pelo "u" composto. O e nu do, como na palavra mise nunca se representa. Os exemplos seguintes ilustram tudo o que atrás fica exposto:

Ex: barque	↳	chaude]
lière	∨	tonche	∨
baine	↪	triste	∩
pife	↳	morte	↪
homme	[jeune	∩

Exercício

more	↳	rice	↪	golfe	↳	marche	∩	botte
base	↪	gape	↳	meute	∩	propulse	↪	ze
rive	∩	litre	↳	forte	↪	resse	↪	pro
lave	↳	niche	↳	botte	↪	examine	↪	pro

Fig. 25 A class note about sound (in this case about french shorthand, as it was commonly learned along with portuguese shorthand).

was through meticulously analyzing each and comparing them through the system's tables and diagrammatic tables that we observed, albeit predominantly based on the Martinian system, that they exhibited unique features. Indeed, we identified distinctions surfaced in areas such as the representation of the stenographic alphabet, the portrayal of numerals in text, the handling of articles, names, abbreviations, and suppressions, among other aspects. They also revealed a certain richness in terms of layout, information hierarchy, topic organization, and language usage. The divergence observed can be attributed to the individual efforts of authors aiming to revolutionize the field of Portuguese shorthand, each striving to establish their respective methods as the fastest and most effective. This collective pursuit has significantly contributed to the evolution of shorthand in Portugal, making their work an important and impactful part of its development.

However, based solely on bibliographic research, we could not determine the official Portuguese shorthand system. It was only through conducting interviews that we were able to infer that the Martinian system was the sole official one. We also realized through the interviews that writers of shorthand developed page layouts. As it was explained above, the division of the page would suggest a design decision in splitting the page like a grid.

With this in mind, it is intended for the final thesis project to create a graphic support with the compiled information about Portuguese stenography as a way of spreading this knowledge, while also preserving it for future generations. The envisioned publication not only presents a broad introduction to shorthand but also facilitates the learning process for those who aspire to learn it. This resource is intended to act as a foundational tool for individuals interested in exploring alternative forms of writing, whether for personal, scientific, or artistic pursuits.

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