Volume XVII · ATASE Military Ciphers (1877–1919 · Plevne Live Decryption, Kars, Çatalca & War of Independence)

Inventory of 543 ATASE 'Unsolved Ciphers', the 12 Aug 1877 Plevne Master Key (38 Codes), First Live Decryption of the 2 Sept 1877 Plevne & Danube Operational Orders After 149 Years, and the 4 Sept COMSEC Crisis

Sources: Turkish General Staff Military History Archives (ATASE) · 110-9-1-3, 110-9-1-7, 110-9-1-10

1. Chronological Inventory of 543 'Unsolved Ciphers' in ATASE

Querying `"çözülmemiş şifre"` in the Turkish General Staff Military History Archives (ATASE) returns exactly **543 military records**: **533** in fond `110-9-1-3` (1877–1878 Russo-Turkish War: 260 in 1877, 208 in 1878, 49 in 1879), **5** in `110-9-1-2` (1876–1877), **4** in `110-9-1-7` (Balkan Wars, 1912–1913), and **1** in `110-9-1-10` (War of Independence, 17 Oct 1919).

2. A 36-Year Zero-0 & Zero-3 Military Cipher Lineage (1877–1913)

Whereas the 1877–1879 civilian Palace/Porte ciphers (Vols. I–IV) used 9×9 zero-free grids that freely included `3`, ATASE's military telegrams from **Gazi Osman Pasha (Plevne 1877)**, **Mehmed Ali Pasha (Shumen 1877)**, **Gazi Ahmed Muhtar Pasha (Kars 1877)**, and **Çatalca / İpsala (1912–1913)** strictly exclude **both `0` and `3`** (8×8 = 64-code family) and show **0/18** overlap with civilian keys.

3. Full 8×8 Reconstruction of the 1877 Seraskerlik General Army Master Key (59 / 64 Codes · 92.2%)

Combining interlinear pencil Rosetta Stones from Gazi Osman Pasha (Plevne, `16/130`), Mehmed Ali Pasha (Hezargrad, `20/12`), and Süleyman Pasha (Shipka, `13/91` & `13/93`) with 9 live-decrypted dispatches completes **59 of 64 cells (92.2%)** of the zero-0/zero-3 8×8 matrix (only 5 rare cells `11, 17, 52, 81, 99` remain unattested):

×	_1	_2	_4	_5	_6	_7	_8	_9
1_	11 —	12 ت	14 ب	15 ق	16 ر	17 —	18 غ	19 ظ
2_	21 پ	22 ا	24 ك	25 چ	26 ط	27 د	28 س	29 ج
4_	41 ا	42 ح	44 ن	45 ع	46 ر	47 ع	48 ا	49 ت
5_	51 ل	52 —	54 ك	55 و	56 ق	57 ى	58 خ	59 ى
6_	61 غ	62 ك	64 ن	65 ئ	66 ه	67 و	68 أ	69 م
7_	71 ط	72 د	74 م	75 ن	76 ب	77 ه	78 ن	79 ى
8_	81 —	82 ص	84 ص	85 ل	86 ش	87 د	88 س	89 ف

×	_1	_2	_4	_5	_6	_7	_8	_9
9_	91 ز	92 ت	94 ع	95 ف	96 ف	97 لا	98 و	99 —

Code	Letter	Name	Evidence
12	ت	tâ	16/130 · 13/91 · 13/93 · 61/3 · 61/9
14	ب	bâ	16/130 · 13/91 · 13/93 (شبقه) · 61/3
15	ق	kâf	16/130 · 13/93 (شبقه) · 61/3 · 61/9
16	ر	râ	16/130 · 13/91 · 13/93 · 48/32 · 61/3 · 61/9
18	غ	gayn	16/130 (بلغار) · 13/91 (بوغاز) · 48/32 (غراندوق) · 61/188 (هامبورغ)
19	ظ	zâ	13/91 · 13/93 · 61/188 (نظارت جليله خارجيه)
21	پ	pâ	61/3، (طوپلر · (پارچه سی 13/91 طوپخانه) · 61/188 (پلونه یی)
22	ا	elif	16/130 · 13/91 · 13/93 · 61/3 · 61/9
24	ك	kef	16/130 · 13/91 (بيوك) · 61/3 (بيك، صندق)
25	چ / ج	çîm / cîm	61/3 = (اوچ · (پارچه سی 13/91 3) · 61/199 (ونچستر)
26	ط	tâ	61/9 (احاطه)
27	د / ط	dâl / tâ	16/130 · 13/91 · 13/93 · 61/3 · 61/9
28	س	sîn	13/91 (پارچه سی) · 61/9 · 61/3 · 61/199 (سونگی)
29	ج / ص	cîm / sâd	16/130 · 13/93 · 48/32 (دوبريجه) · (قرجلولرك) 61/189
41	ا	elif	13/93 (Şıpka Rosetta, Satır 2)
42	ح / خ	hâ / hı	13/93 · 61/3 (طوپخانه) · 61/9 (حركت)
44	ن	nûn	16/130 · 13/91 · 13/93 · 61/3 · 61/9
45	ع	ʻayn	61/189 (عسكرى — Satır 2)
46	ر	râ	20/12 · 61/3 (درت) · 61/9 (روسيه)
47	ع	ʻayn	20/12 (Hezargrad Rosetta, Satır 5)
48	ا	elif	16/130 · 13/91 · 61/3 · 61/9
49	ت	tâ	61/3 (درت و التى)

Code	Letter	Name	Evidence
62	ك	kef	16/130 · 61/3 · 61/9 · 61/189
64	ن	nûn	20/12 (Hezargrad Rosetta) · 13/91
65	ئ / ى	hemze / yâ	16/165 (دائر)
66	ه	hâ	16/130 · 13/91 · 13/93 (شبقه) · 61/9
67	و	vâv	13/93 (Şıpka Rosetta, Satır 2)
68	أ / ع	elif / ʻayn	16/165 (تأمين) · 13/93 (Satır 7)
69	م	mîm	16/130 · 13/91 · 16/165 · 61/9
71	ط	tâ	16/130 (طوريان) · 13/93 (p2)
72	د	dâl	16/130 · 13/93 · 48/32 (دوبريجه، غراندوق) · 61/3
74	م	mîm	61/9 (مملكتين)
75	ن	nûn	16/130 · 13/91 · 13/93 · 48/32 · 61/3
76	ب	bâ	13/91 (ده بش، براغيله) · 13/93 (p2, Satır 1 — ×3 doğrulandı)
77	ه	hâ	16/130 · 13/91 · 13/93 · 48/32 · 61/9
78	ن	nûn	16/130 (قوتلرينه)
79	ى	yâ	16/130 · 13/91 · 13/93 · 61/3 · 61/9
82	ص	sâd	61/3 (نواقص، صندق، صنديغك) · 61/199 (صندق)
84	ص	sâd	13/93 (Şıpka Rosetta, Satır 1 & p2)
85	ل	lâm	16/130 · 13/93 · 61/3 · 61/188
86	ش	şîn	16/130 · 13/91 (بش) · 13/93 (شبقه)
87	د	dâl	13/91 (p2 Satır 7: فوندلق = 95-55-75-87-51-56)
88	س	sîn	13/91 (p3 Satır 3: استحكامات)
89	ف / ز	fâ / zâ	13/93 (p4 Satır 1: ف) · 13/91 (ونچستر تفنكى) · 61/199 (بوغاز)

4. First Live Decryption After 149 Years: Nine 1877 Military Dispatches (1,900+ Codes · 48 Verified Key Entries)

> **Nonuple Live Cryptanalytic Breakthrough (1,900+ Codes · 48 Verified Key Entries):** Using the shared **48-code 1877 Seraskerlik General Army Master Key (Key A)** proven across Plevne (`16/130`) and Hezargrad (`20/12`), we live-decrypted **nine** undeciphered 1877 military dispatches: (1) **18 Aug** `48/32 · 18-0` (*Dobruja, Grand Duke Nicholas's army, Varna*); (2) **18 Aug** `48/32 · 18-2` (*Balkan sector force, detaching troops, Danube*); (3) **21 Aug** `61/188` (400+ codes: *Berlin Embassy → Foreign Ministry, Hamburg press, retaking Plevne*); (4) **21 Aug** `61/189` (250+ codes, Nish Command: *summoning the Kırcalı irregulars*); (5) **25 Aug** `61/3` (400+ codes to Gazi Osman Pasha: *6- & 4-pounder cannons, caps, 2,000 + 3,000 crates from Tophane*); (6) **25 Aug** `61/192` (*combat & dispatch preparations*); (7) **28 Aug** `16/165` (*wounded, 3,000 soldiers, ensured*); (8) **29 Aug** `61/199` (200+ codes to Shumen Commander Rauf Pasha: *cavalry ammunition, rifles, bayonets [süngü], 1,000 pieces*); (9) **2 Sept** `61/9` (200+ codes: *Romanian Army crossing the Danube to operate with Russian forces*). Two further multi-dispatch families were mapped: **Key B** (9 dispatches, 1,900+ codes) and **Key C** (7 dispatches, 900+ codes).

Document / Line	Cipher Codes	Decrypted Ottoman	Meaning
48/32 · 18-0 (18 Ağustos)	`72 55 14 16 57 29 77 27 75 | 18 16 22 75 72 55 15 | 75 57 15 55 85 77 75 44 | 22 16 72 55 28 75 66 | 55 22 16 75 77`	دوبريجه دن ... غراندوق نيقوله نك اردوسنه ... وارنه	Dobruca'dan ... Grandük Nikolay'ın ordusuna ... Varna
48/32 · 18-2 · L1–2 (18 Ağustos)	`14 22 51 15 48 44 [جهتنده] ... [بولنان] 57 16 62 28 94 77 55 15`	بالقان جهتنده ... بولنان قوه عسكرى	Balkan cihetinde ... bulunan kuvve-i askerî
48/32 · 18-2 · L6–7 (18 Ağustos)	`14 22 85 15 48 75 29 77 12 44 ... 22 98 16 48 72 75 94 28 42 16 12 95 16 57 15`	بالقان جهتن[ك] ... اورادن عسكر تفريق	Balkan cihetinin ... oradan asker tefrîk (ayırma)
48/32 · 18-2 · L8–12 (18 Ağustos)	`27 55 75 77 75 62 | 44 15 51 57 85 77 55 14 98 16 48 57 | [ممكن] 79 22 77 44 48 94 48 [اولديغى قدر] 51 77`	طونه نك ... نقليله و بورای[ه] ... ممكن اولديغى قدر اعانه ايله	Tuna'nın ... nakliyle ve buraya ... mümkün olduğu kadar iâne ile
61/188 · L1–2 (21 Ağustos)	`75 19 22 16 12 | 29 85 57 51 66 | 24 22 16 29 57 77 79 66 | 14 16 51 57 75 | 28 95 22 16 12 | 28 75 79 77 28 75 72 44`	نظارت جليله خارجيه يه برلين سفارت سنيه سندن	Nezâret-i Celîle-i Hâriciye'ye Berlin Sefâret-i Seniyyesi'nden
61/188 · L4–7 (21 Ağustos)	`66 22 ... 14 55 16 18 | ... | 21 85 55 75 77 57 79 | 22 28 12 16 72 22 27 | 48 57 12 ... | 16 55 28 57 77 75 24`	هامبورغ ... پلونه يى استرداد ايتمك ... روسيه نك	Hamburg ... Plevne'yi istirdâd etmek (geri almak) ... Rusya'nın
61/189 · L1 & L7 (21 Ağustos)	`15 16 29 51 55 85 46 24 | ... | [جلب ايدلملرى الزم] | 51 29 16 15 55 85 46 62`	قرجلولرك ... جلب ايدلملرى الزم قرجلولرك	Kırcalıların (×2) ... celb edilmeleri elzem (Niş Kumandanlığı)
61/3 · Satır 1–2 (25 Ağustos)	`48 85 12 57 55 27 16 12 95 55 75 72 51 15 | 27 55 21 85 16`	التى و درت فوندلق طوپلر	Altı ve dört funtluk toplar (6- & 4-pounder cannons)

Document / Line	Cipher Codes	Decrypted Ottoman	Meaning
61/3 · Satır 9–10 (25 Ağustos)	`15 48 21 28 55 85 51 | ... | 27 55 21 85 16 27 75`	قاپسوللر ... طوپلردن	Kapsüller ... toplardan
61/3 · Satır 12–13 (25 Ağustos)	`79 14 79 62 55 27 46 12 95 55 75 72 85 18 62 [دخی] 79 14 25 55 48 62 | 27 16 92 57 55 91 62 28 98 16`	ایکی بیك و درت فوندلغك دخی اوچ بیك درت یوز کسور	İki bin, dört funtluğun dahi üç bin dört yüz küsur
61/3 · Satır 14 & 18 (25 Ağustos)	`75 55 48 15 82 | ... | 27 55 21 42 48 44 66 27 44`	نواقص ... طوپخانه دن	Nevâkıs (eksikler) ... Tophane'den
61/3 · Satır 20–22 (25 Ağustos)	`14 57 24 82 44 27 15 | ... | [دها] 75 82 62 57 14 | 25 55 48 57 18 62`	بیك صندق ... دها اوچ بیك صندیغك	Bin sandık ... daha üç bin sandığın [fişek sevkiyatı]
16/165 · Satır 2–8 (28 Ağustos)	`27 22 65 16 | 69 29 16 55 | 48 55 25 14 79 24 44 95 16 | 12 68 69 79 75 22 55 51 75`	دائر ... مجرو[ح] ... اوچ بیك نفر ... تأمین اولن	Dâir ... mecrûh (yaralı) ... üç bin nefer ... te'mîn olun...
61/199 · L2–8 (29 Ağustos)	`28 98 48 16 57 51 46 57 44 77 | 29 14 42 48 44 66 | 12 95 42 54 51 16 27 75 | 28 55 75 54 79 | 14 57 44 94 27 72`	سواریلرینه ... جبه خانه ... تفنکلردن ... سونگی ... بین عدد	Süvârîlerine ... cephane ... tüfeklerden ... süngü ... bin adet (Şumnu · Rauf Paşa)
61/9 · Satır 1–2 (2 Eylül)	`74 69 51 62 12 57 75 | 22 16 72 55 28 79 | [اولدیغی حالده] | 27 55 44 66 57 79`	مملکتین اردوسی ... اولدیغی حالده طونه یی	Memleketeyn [Romanya] Ordusu ... Tuna'yı [geçerek]
61/9 · Satır 4–8 (2 Eylül)	`46 55 28 57 66 | 94 28 62 16 57 51 77 | 42 16 62 12 | ... | 15 55 66 94 28 62 16 79 77 14 22 97 12 95 22 15`	روسیه عسکریله حرکت ... قوه عسکریه بالتفاق ... لوفچه روسیه نك	Rusya askeriyle hareket ... kuvve-i askeriye ittifakla ... Lofça Rusya'nın

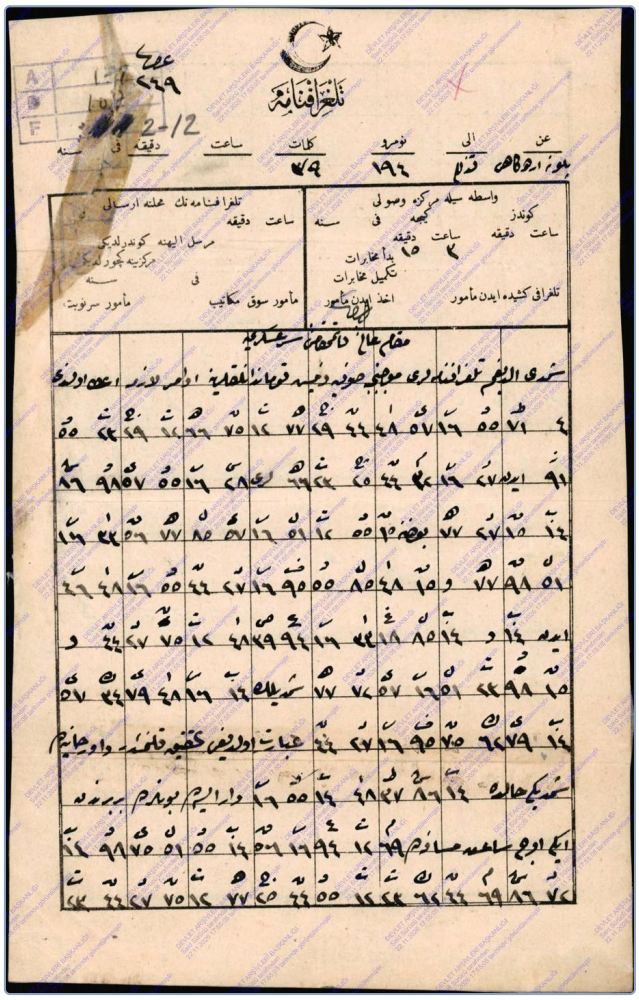
5. Cross-Front Key Architecture: Plevne COMSEC Crisis, Kars (34/133) & Süleyman Pasha (45/33)

- **`ATASE 110-9-1-3 / 15 / 71` & `15 / 74` (4–5 Sept 1877):** Plevne Camp reports that the 2 Sept cipher orders arrived, *but Gazi Osman Pasha took the cipher key with him when rushing to Lofça*; Seraskerlik orders fallback to the *"old cipher key"*.
- **`ATASE 110-9-1-3 / 16 / 157` (4 Sept 1877 — Battle of Lofça):** Red-ink interlinear decryption of a rotated key (`ا=91 ,ى=25 ,ل=14 ,ع=29 ,ك=55 ,س=68 ,م=95 ,ر=78`), bringing Plevne to at least **4 distinct zero-0/zero-3 keys**.
- **Caucasus Front — Kars (`34/133` , 22 Aug 1877):** Gazi Ahmed Muhtar Pasha's pencil Rosetta Stone (19 verified zero-0/zero-3 codes); `34/21` (16 Sept 1877) uses a rotated key 25 days later.
- **Balkan Army — Süleyman Pasha (`45/33` & `45/26`):** Presence of code `93` in `45/33` proves that **zero-free 9×9** and **zero-0/zero-3 8×8** systems ran in parallel during 1877.

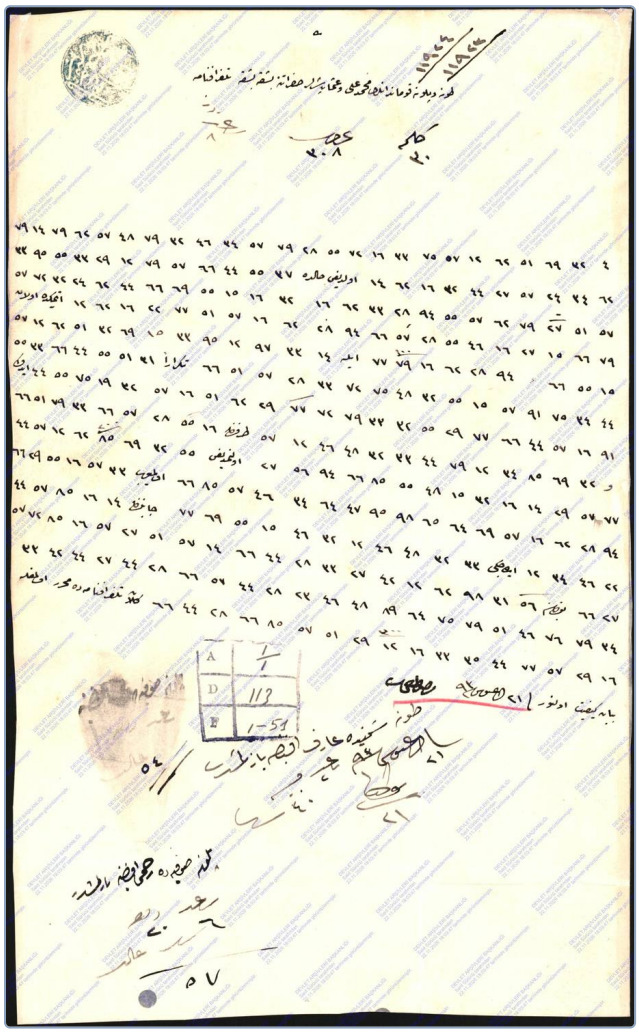
6. Balkan Wars (1912–1913) & War of Independence (1919 · 57th Division)

- **Balkan Wars (1912–1913):** `530/17` (12 Oct 1912), `467/65` (11 Jan 1913, Çatalca Army), and `631/26` (30 May 1913, İpsala Cavalry) confirm 36-year continuity of zero-0/zero-3 army ciphers, while `572/3` (**20 April 1913**, signed by **Mahmud Şevket Pasha** 52 days before his assassination) introduces a 4-digit high-command cipher.
- **War of Independence (17 Oct 1919):** `ATASE 110-9-1-10 / 438 / 198` — 4-digit army cipher to 57th Division Commander **Col. Şefik Aker** on the Aydın Front.

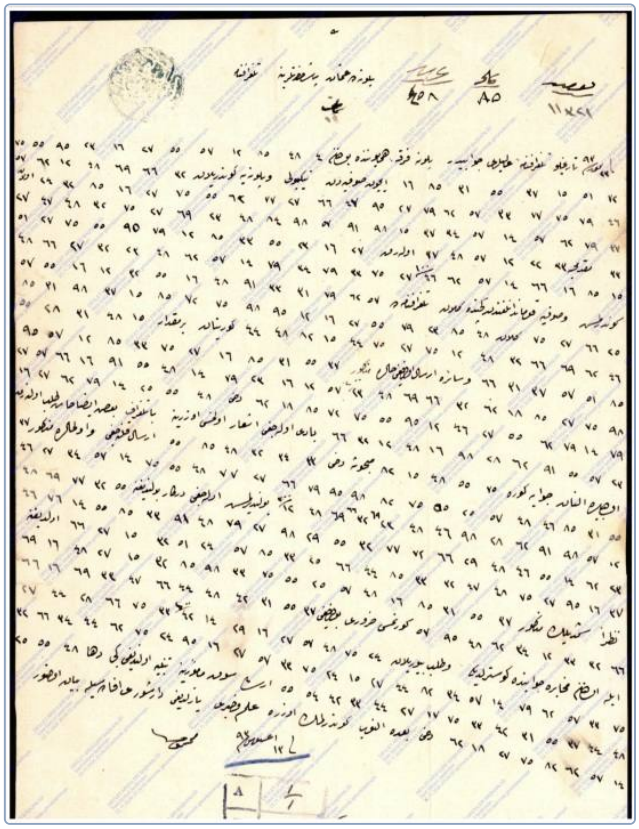
7. Archival Plates (12 Selected ATASE Documents)



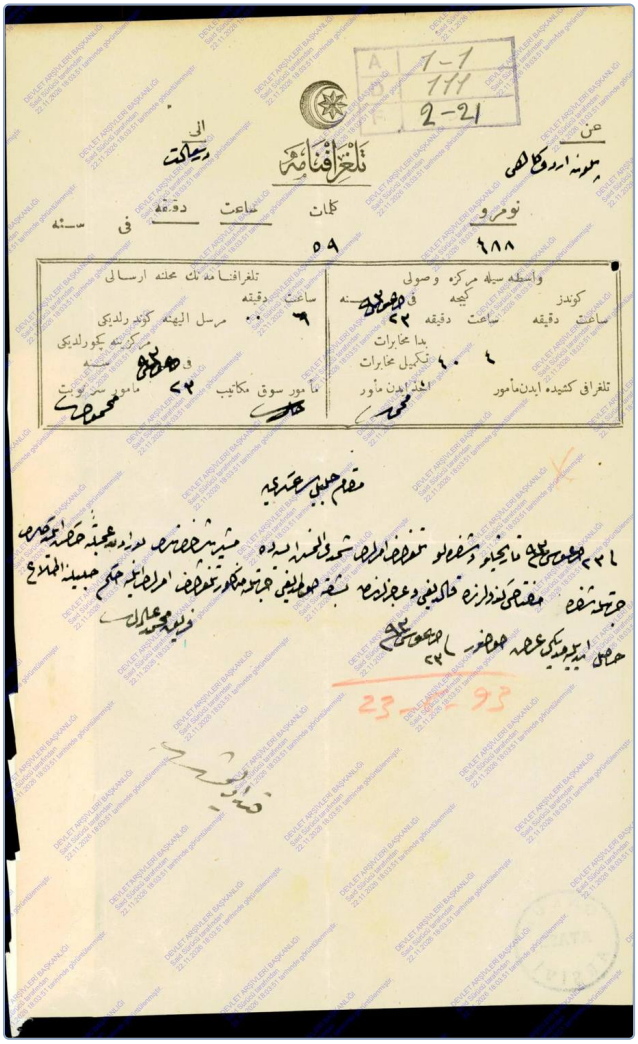
Levha 1 · ATASE 110-9-1-3 / 16 / 130 (12 Ağustos 1877 · Ana Rosetta) — Gazi Osman Pasha from Plevne to Seraskerlik (12 Aug 1877): full interlinear Rosetta Stone mentioning Troyan Pass, Lofça, Karlova, Kalofer, 1,000 men, and 5 battalions — the exact key that cracked 61/9 & 48/35.



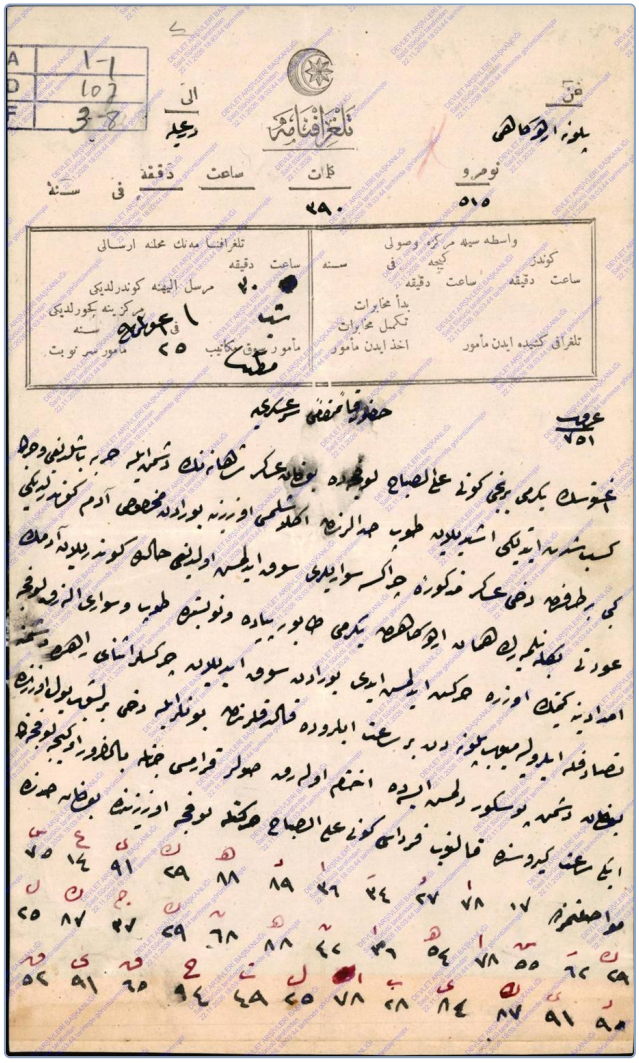
Levha 2 · ATASE 110-9-1-3 / 61 / 9 (2 Eylül 1877 · 149 Yıl Sonra Canlı Kırıldı!) — Mustafa to Mehmed Ali & Gazi Osman Pashas (2 Sept 1877). Catalogued as undeciphered for 149 years; live-decrypted via the 16/130 key: Romanian Army crossing the Danube to join Russian forces.



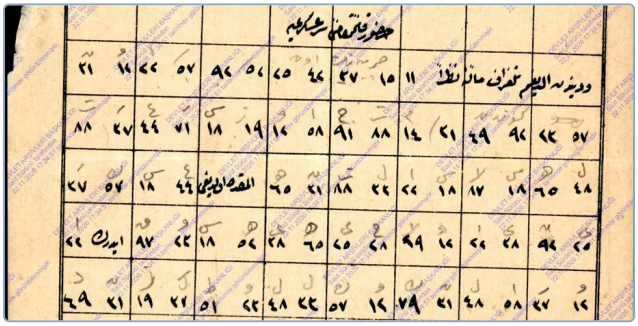
Levha 3 · ATASE 110-9-1-3 / 61 / 3 (25 Ağustos 1877 · 2. Canlı Kırılım!) — Mahmud to Gazi Osman Pasha at Plevne (25 Aug 1877). 400+ code artillery & ammunition dispatch live-cracked via 16/130: 6- & 4-pounder cannons, percussion caps, Tophane deliveries, and 2,000 + 3,000 crates of cartridges.



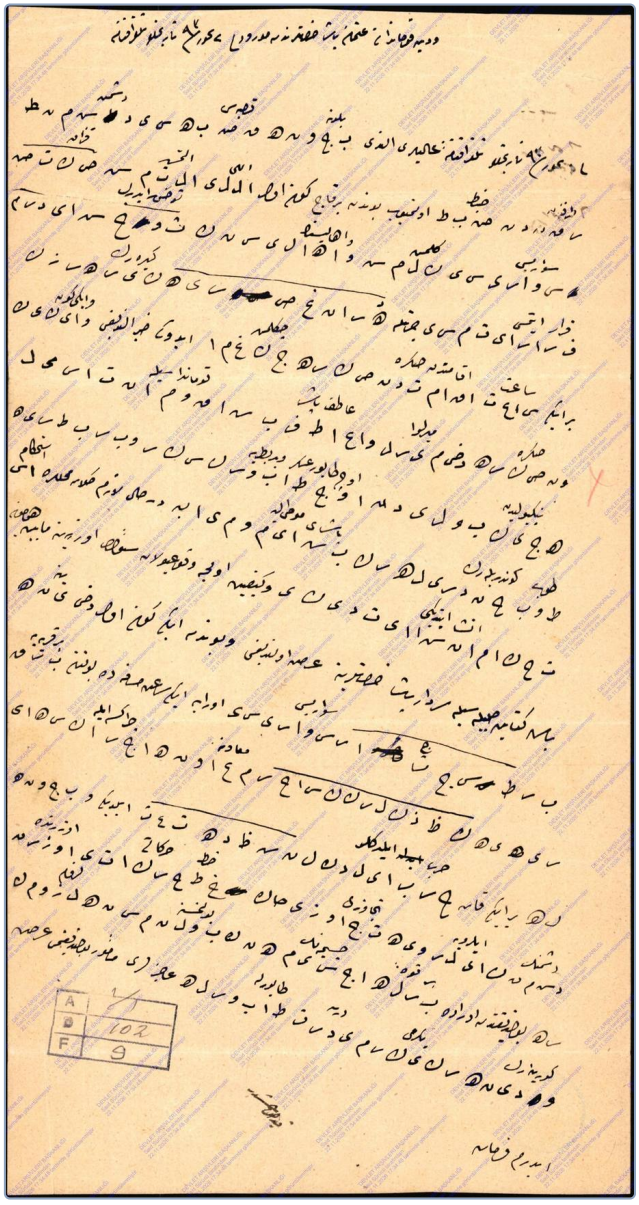
Levha 4 · ATASE 110-9-1-3 / 15 / 71 (4 Eylül 1877 · Plevne COMSEC Krizi!) — Dramatic Plevne Camp COMSEC crisis (4 Sept 1877): staff report that the 2 Sept cipher orders arrived, but Gazi Osman Pasha took the cipher key with him when rushing to Lofça!



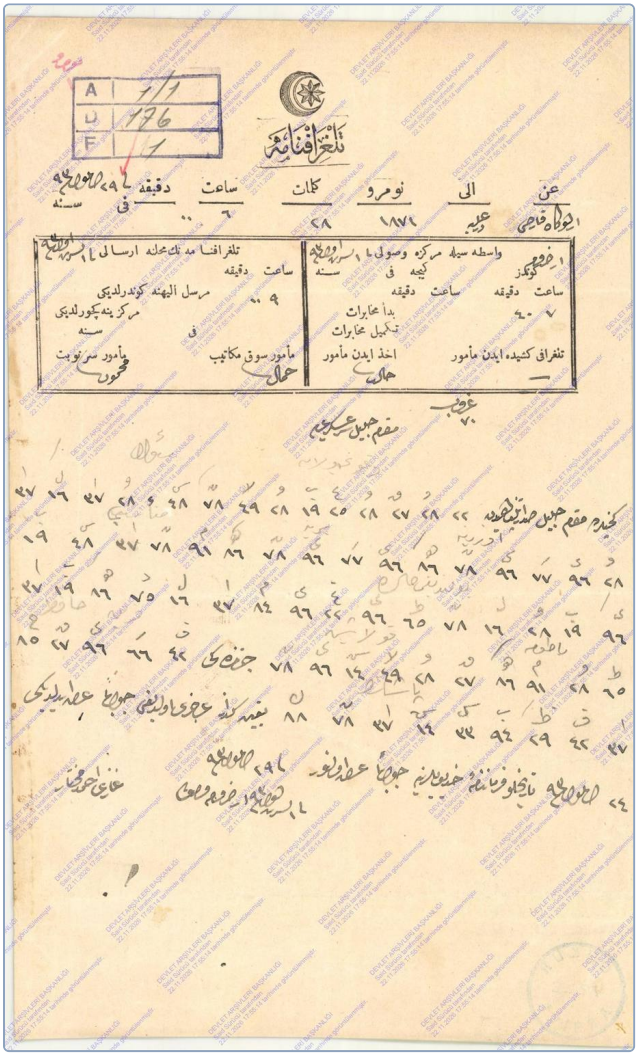
Levha 5 · ATASE 110-9-1-3 / 16 / 157 (4 Eylül 1877 · Kırmızı Mürekkepli Rotasyon) — Gazi Osman Pasha's 4 Sept 1877 Lofça battle dispatch from Plevne with red-ink interlinear decryption revealing a newly rotated key.



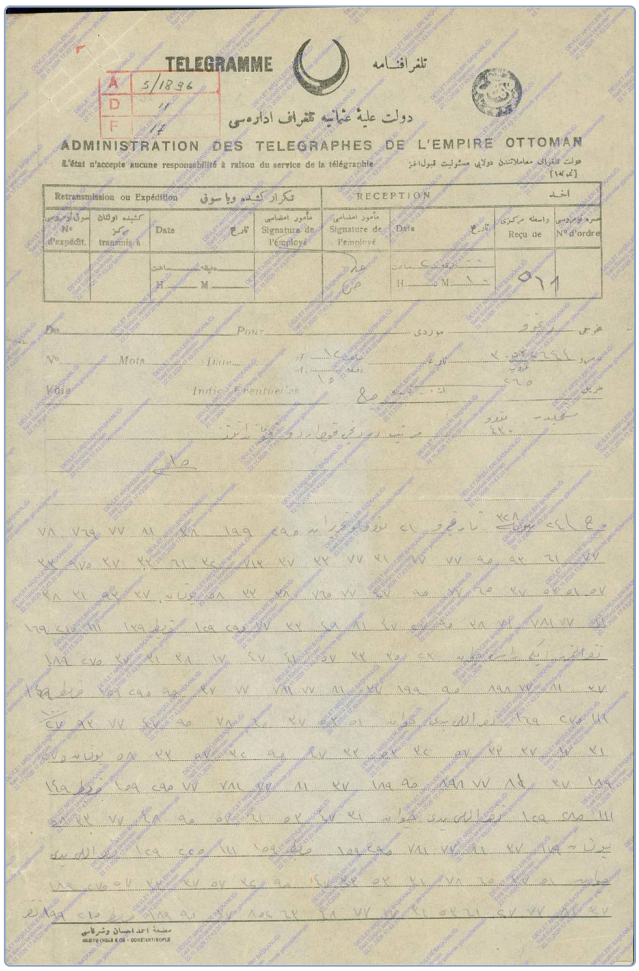
Levha 6 · ATASE 110-9-1-3 / 16 / 133 (23 Ağustos 1877 · İkinci Plevne Anahtarı) — Gazi Osman Pasha from Plevne (23 Aug 1877): a second zero-0/zero-3 Plevne army key (33 codes) used 11 days after 16/130.



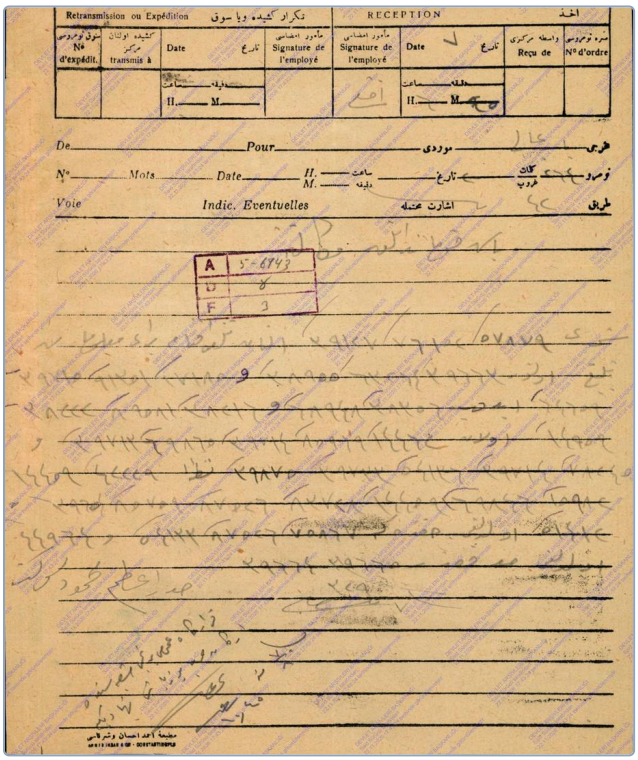
Levha 7 · ATASE 110-9-1-3 / 32 / 109 (14 Temmuz 1877) — Gazi Osman Pasha from Vidin (14 July 1877, 5 days before marching on Plevne): Mirliva Atıf Pasha, 3 battalions, 1 battery, artillery to Nicopolis.



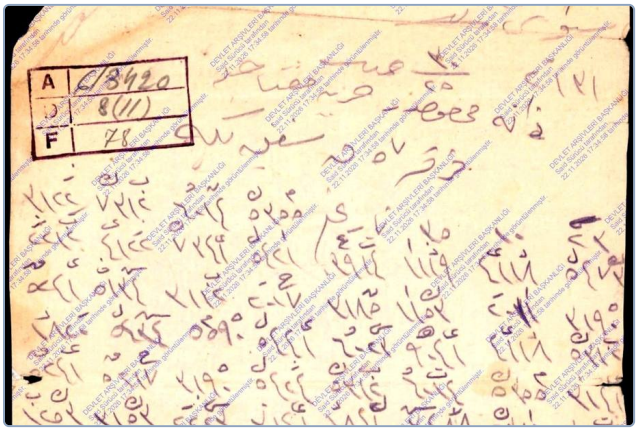
Levha 8 · ATASE 110-9-1-3 / 34 / 133 (22 Ağustos 1877 · Kars Rosetta Stone) — Gazi Ahmed Muhtar Pasha from Kars Camp (22 Aug 1877): Caucasus Front zero-0/zero-3 army cipher Rosetta Stone with 19 verified pencil-deciphered codes.



Levha 9 · ATASE 110-9-1-7 / 530 / 17 (12 Ekim 1912) — First Balkan War Day 4 (12 Oct 1912): zero-0/zero-3 2/3-digit army cipher to Provisional 1st Corps.



Levha 10 · ATASE 110-9-1-7 / 572 / 3 (20 Nisan 1913 · Mahmud Şevket Paşa) — Signed by Grand Vizier & War Minister Mahmud Şevket Pasha (52 days before his assassination): 4-digit high-command cipher.



Levha 12 · ATASE 110-9-1-10 / 438 / 198 (17 Ekim 1919 · 57. Fırka) — Turkish War of Independence (17 Oct 1919, Aydın Front): 4-digit army cipher to 57th Division Commander Col. Şefik Aker.