	_	. •	40	
	Z	Ξ		ters
	Ξ	Z		ıl let
	⋧	٩		ıncia
	æ	Ξ	Fig. 6.	of t
	G G A A H F	Ξ	臣	ions
	Ó	M M M M M M M		binat
•	©	ξ		Combinations of uncial letters

Fig. 6. Combinations of uncial letters viz. 0s, 0s, 0u, aq, au, $\eta\mu$, $\eta\nu$, $\mu\nu$, $\nu\eta$, $\nu\tau$,	Fig. 6.	Combinations of uncial letters	iz. os, os, oι, αρ, αν, ημ, ην,	נא, מן, מת, מנון, מנפ, דווי, עון.	Sf. CL , 10, margin 10, 21; 11,	0; 13 ii 13; 26, 30; 52, 4;	Ch. 51, 3; 64, 10; 81, 1;	()
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<u>~</u>	3	ક	کے د	8	Ś	T	علق	Ł	£	なみ	ىم	৳	×	J	Ž	₹	K	9	<u>1</u>	چ	E	స్తి	ල	ىع	T.	چې	18-	i
8	8	άρ	a b	Ye	73	73	ξĸ	۲3	<u>بر</u>	Em(1)	23	23	εχο	∌	ځ	ทุธ	~	γ	37	шо	III	3	ga	10	'n	م	<u>z</u>	
AMMA	HEFF		al let ŋ#,	η , σQ , $\tau \eta \nu$, $\mu \eta$, rgin 10, 21; 11,	2,52	•	-	ਰ	\$	ول	.س.	CCA.	b ,	۴, ۲	§ ,	<u>~</u>	- m²	\$.	ht_	aga,	8		ع	ب	×	1	3	ار ا

<u>۾</u>

۴. اور اور

•	Comb
20	Fig. 7. Usual combinations of minuscule letters.

and in the uncial codices we repeatedly see the N, as a rule deformed into

letter is then generally written at a higher level than the penultimate one, but the sequence is now and again also the reverse. Already in the papyri

الر ط محس څ څ څ	× × × × × × × × × × × × × × × × × × ×	9 d g d tO th 9 f 5	ج و هاسر جو هاسر
7 8 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	ου(ς) πα πε πε	3 8 3 7 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3 3 3
	6		

	þ	
	letters	on.
Q.	$_{\rm fo}$	Sit
Fig.	Combinations	superposition

ПП

S D H 00

δ, ώπιος	5,000
n -	n
+	*

OYNOE

οδρανός

ПHР

 $\pi \alpha r \eta \varrho$

MHP

μήτηρ

Fig. 10. Two monograms.

γράφεται	κέντρον λόγος	30 So	σημείωσαι	, Xp.g.ros Wpa
A.D.) line 6 and 10, CL. 1 (Vaticanus of the Bible) i 30 etc. (cf. Th. 44 i 1), Th. 45 (Sinaiticus of the Bible) i 6 etc., Th. 46 (Alexandrinus	of the Bible) 14 etc., Pl. III (Sarravianus of the Old Testament) i 9 etc., CL. 2 (Cassius Dio from the Vth cent.) ii 23 etc. Most com-	mon is the superposition of $\overrightarrow{O}X$, see o.a. CL . 13 ii 1. Later on, all the characters may be written in this way. See e.g. many cases in Pl. VII-	XI, then in Th. 81 (Odyssey from 1479), CL. 36 (Menaeum from 1260), with a repeated super-position in 1.1 CL. 27 (Humn-book from 1282)	CL. 43 (Aristotle from 1294), CL. 56 (Etymologicum from the XIth cent.), W. 31 (Oppian from 1287).

田会×中

 $\overline{\Lambda}$

from 1287).	.	
2. Combination of letters, or ligature, occurs	ligature,	occurs
in two different forms: a. the letters are written	ters are	written
in or across each other; b. they have one or	ey have	one or
more strokes in common. The first type is	e first t	type is
specially found with the uncial. The old Greek	The old	Greek
cipher-system mentioned above (p. 10 n. 1) makes	p. ron. r) makes

droganos

Δανείδ

Spage

 Fig. 11. Abbreviations through suspension together with superposition or combination. Cf. Pl. II. title, schol. 2, 1, 6; CL. 9, margin 16; 10, margin 15; 11, 1, 2; 52, 4; 7h, 48, 3; V. 18; W. 20, margin 28.

use of it. The second type which may already	B.C., occurs with the uncial, but afterwards	regularly with the minuscule. For the uncial	see fig. 6. The minuscule has a number of	these combinations which belong to the normal	type of writing and which have their own	history (fig. 7). In § 18-19 we saw that they	became more and more numerous. The defor-	mation of the minuscule by the introduction	of uncial and cursive forms at the same time	implies the adoption of combinations of these	forms (see fig. 8). The superposition also gave	rise to new combinations (see fig. 9). In certain
		B,C., occurs with the uncial, but afterwards	B.C., occurs with the uncial, but afterwards regularly with the minuscule. For the uncial	B.C., occurs with the uncial, but afterwards regularly with the minuscule. For the uncial see fig. 6. The minuscule has a number of	B.C., occurs with the uncial, but afterwards regularly with the minuscule. For the uncial see fig. 6. The minuscule has a number of these combinations which belong to the normal	B.C., occurs with the uncial, but afterwards regularly with the minuscule. For the uncial see fig. 6. The minuscule has a number of these combinations which belong to the normal type of writing and which have their own	B.C., occurs with the uncial, but afterwards regularly with the minuscule. For the uncial see fig. 6. The minuscule has a number of these combinations which belong to the normal type of writing and which have their own history (fig. 7). In § 18-19 we saw that they	B.C., occurs with the uncial, but afterwards regularly with the minuscule. For the uncial see fig. 6. The minuscule has a number of these combinations which belong to the normal type of writing and which have their own history (fig. 7). In § 18-19 we saw that they became more and more numerous. The defor-	B.C., occurs with the uncial, but afterwards regularly with the minuscule. For the uncial see fig. 6. The minuscule has a number of these combinations which belong to the normal type of writing and which have their own history (fig. 7). In § 18-19 we saw that they became more and more numerous. The deformation of the minuscule by the introduction	B.C., occurs with the uncial, but afterwards regularly with the minuscule. For the uncial see fig. 6. The minuscule has a number of these combinations which belong to the normal type of writing and which have their own history (fig. 7). In § 18-19 we saw that they became more and more numerous. The deformation of the minuscule by the introduction of uncial and cursive forms at the same time	B.C., occurs with the uncial, but afterwards regularly with the minuscule. For the uncial see fig. 6. The minuscule has a number of these combinations which belong to the normal type of writing and which have their own history (fig. 7). In § 18-19 we saw that they became more and more numerous. The deformation of the minuscule by the introduction of uncial and cursive forms at the same time implies the adoption of combinations of these	B.C., occurs with the uncial, but afterwards regularly with the minuscule. For the uncial see fig. 6. The minuscule has a number of these combinations which belong to the normal type of writing and which have their own history (fig. 7). In § 18-19 we saw that they became more and more numerous. The deformation of the minuscule by the introduction of uncial and cursive forms at the same time implies the adoption of combinations of these forms (see fig. 8). The superposition also gave
be seen on inscriptions from the VIth cent. B,C., occurs with the uncial, but afterwards regularly with the minuscule. For the uncial see fig. 6. The minuscule has a number of these combinations which belong to the normal type of writing and which have their own history (fig. 7). In § 18-19 we saw that they became more and more numerous. The deformation of the minuscule by the introduction of uncial and cursive forms at the same time implies the adoption of combinations of these forms (see fig. 8). The superposition also gave rise to new combinations (see fig. 9). In certain	regularly with the minuscule. For the uncial see fig. 6. The minuscule has a number of these combinations which belong to the normal type of writing and which have their own history (fig. 7). In § 18-19 we saw that they became more and more numerous. The deformation of the minuscule by the introduction of uncial and cursive forms at the same time implies the adoption of combinations of these forms (see fig. 8). The superposition also gave rise to new combinations (see fig. 9). In certain	see fig. 6. The minuscule has a number of these combinations which belong to the normal type of writing and which have their own history (fig. 7). In § 18-19 we saw that they became more and more numerous. The deformation of the minuscule by the introduction of uncial and cursive forms at the same time implies the adoption of combinations of these forms (see fig. 8). The superposition also gave rise to new combinations (see fig. 9). In certain	these combinations which belong to the normal type of writing and which have their own history (fig. 7). In § 18-19 we saw that they became more and more numerous. The deformation of the minuscule by the introduction of uncial and cursive forms at the same time implies the adoption of combinations of these forms (see fig. 8). The superposition also gave rise to new combinations (see fig. 9). In certain	type of writing and which have their own history (fig. 7). In § 18-19 we saw that they became more and more numerous. The deformation of the minuscule by the introduction of uncial and cursive forms at the same time implies the adoption of combinations of these forms (see fig. 8). The superposition also gave rise to new combinations (see fig. 9). In certain	history (fig. 7). In § 18-19 we saw that they became more and more numerous. The deformation of the minuscule by the introduction of uncial and cursive forms at the same time implies the adoption of combinations of these forms (see fig. 8). The superposition also gave rise to new combinations (see fig. 9). In certain	became more and more numerous. The deformation of the minuscule by the introduction of uncial and cursive forms at the same time implies the adoption of combinations of these forms (see fig. 8). The superposition also gave rise to new combinations (see fig. 9). In certain	mation of the minuscule by the introduction of uncial and cursive forms at the same time implies the adoption of combinations of these forms (see fig. 8). The superposition also gave rise to new combinations (see fig. 9). In certain	of uncial and cursive forms at the same time implies the adoption of combinations of these forms (see fig. 8). The superposition also gave rise to new combinations (see fig. 9). In certain	implies the adoption of combinations of these forms (see fig. 8). The superposition also gave rise to new combinations (see fig. 9). In certain	forms (see fig. 8). The superposition also gave rise to new combinations (see fig. 9). In certain	rise to new combinations (see fig. 9). In certain	

MHVI

Γερουσαλήμ

'Ισραήγ

 $I\eta\sigma\sigma\tilde{v}_{S}$

núquos

monograms (fig. 10).

ΣHP ПNА

σωτήρ

σταυρός

sign

xvevu

Χριστός

daemon, or a few letters from the beginning of the word, as \mathbf{AOE} was written on the Athenian coins and \mathbf{ZY} on the coins of Sybaris. In manuscripts there is as a rule one additional feature: the last letter is written above the preceding one, and a short oblique stroke is added next to or through the last letter 1). Such a superposition in a word

nje:	1913	E. 1 va 1	٧٥	χ ,,	510	,). 0 T L	πρός	3 7	3.	ls. as <i>ew</i> ,
•	*	ş	v ;	655	l:	/:	<i>'</i> 'o	5 2	(; }:	<u>∽</u> 5::	Fig. 15. Various abbreviations. N.B. w and m are written as ew,
•	β	8	ζ Δ/Τ!	αβα	88	5€	2113	Å	es (a15)	£071' 55 S	Fig. 15. ious abbrev and $\eta \nu$ are where and eas as
	S	77	7	9	7:	× 3.	11:11:1	7,111	7.7	<. :	Var N.B. ev a
٠ <u>ـ</u>	اً جرء ع	<u>.</u> ↔	ф8	3. through	etner with suspension Cf. Pl. V, ro, margin	8; 70, 4; 114; LC:	*	₽ ⊕	⊙ ₁	⊌ ▷	
, , , , , , , , , , , , , , , , , , ,	Kara	μετά Χορός	B Kropes	Fig. 13. Abbreviations	contraction together with superposition, suspension or combination, Cf. Pl. V, schol, 2, 7; CL, 10, margin	14; 47, 3; 48, 7; 7h. 66, margin 3 and 8; 70, 4; 72; 5, ii 6 and 14; LC. 6 margin 1.	aorne	ή, λ1ος κόσμος	κύκλος	σελήνη	

abbreviated through suspension may be found on Pl. VI in the title, on Pl. V in many scholia, then in CL, 9 margin 23; 10 margin 24²); a repeated superposition in CL, 11, 1. Strokes marking the suspension are numberless; see e.g. the same plates and CL, 9 margin 22; Th. 81,

combination is frequent (fig. 11 and Pl. VI, 1, 2 of the scholia the name " $O\mu\eta\rho\rho\rho$ "). It should be noted that the different parts of compound words may each be abbreviated by suspension, whereas for the combination of suspension and superposition two successive words may be treated as one single word (e.g. $\epsilon t G \tau = \epsilon t C \tau \sigma \nu$).

- the so-called Septuagint) made by the Jews in Alexandria. It is a fact First of all we must mention the so-called "nomina sacra" reproduced in fig. 12. The name has been given by L. Traube 1), considering the fact that it is almost exclusively used for sacred terms; the origin, according to him, is to be found in the Greek translation of the Old Testament that these abbreviations are regularly applied only in religious texts, but it was probably known in Plato's time 3) and recent, but not yet published investigations by Dr. A. H. R. E. Paap apparently ruin the theory. Deriv- $(\partial \varrho \omega \pi)_{0S}, \, \sigma \tau(\alpha v) \varrho o \tilde{v} v, \, \pi(\alpha \tau) \varrho \iota u \iota \omega v \, (LC. \, 71, \, 21).$ The contraction is also combined with other ways of abbreviating: a suspension like $\pi o \lambda l / \iota$, which $\pi o \lambda^{\tau}/=\pi o \lambda l t \eta \varsigma$. For some other usual abbreviations consisting of conations and compounds are treated exactly as the single words; e.g. puldermay be used for many words, is often determined by a contraction, e.g. traction together with superposition, combination or suspension, see fig. 13. it seems to occur already in an Attic inscription from the IVth cent, B.C. 2), 4. Contraction consists in omitting the central part of the word
- 5. Symbols are conventional signs comparable to the ideographic hieroglyphs, especially used for technical terms relating to mathematics and astronomy. A small selection is given in fig. 14. Letters used for ciphers are symbols too, though of a different kind.
 - 6. The last type of abbreviations consists of various signs, mainly deformed letter-combinations or adopted from shorthand writing. They are practically countless and occur nearly in as many forms as there are handwritings. They are mainly, though not exclusively, used at the end of words. A thorough knowledge is only to be gained by long practice; a small number of the most frequent signs are reproduced in their usual form in fig. 15.

§ 22. Expansion of Greek Writing

The Phrygian, Lycian and Carian alphabets, at the same time also the Etruscan alphabet (with its derivates, the Oscan, Umbrian, Faliscan and

¹⁾ Sometimes a horizontal stroke is drawn above the last letter.

¹⁾ L. Traube, Nomina sacra. Munich 1907.
2) Sigalas, p. 297 mentions IG. II³ 1400 EK KE(PAME), 2N, but the fact that no other instance can be given, makes the case doubtful: it might be just a mistake.
3) See the transfer of the same of the sam