



## Alpenland & Altaitalia hinterland Archives

Archivio Storico Geografico Civico  
Diplomatico Alpino e Cisalpino

*abridged from the "Report on Alps and Altaitalia early jurisdiction"  
official Record by The Committee of Alpine free States and Altaitalia representative acting Committee as presented to  
Den Haag Conference on UNPO the august 3<sup>rd</sup> 1991 courtesy [www.altaitalianationalarchives.eu](http://www.altaitalianationalarchives.eu)*

# NUMBERS

*by origins of the Lumbard languages*

Even if the "romanisation" has broadcast a numeral system with the Greek decimal one, the rural habits of the ancient Romans and of the peoples that were colonised always preserved their prehistoric duodecimal system: the "jugerum" is used by the Romans to measure land properties, standardising 120x240 feet in a 3x2 square and counting by twelfths. The square jugerum (in the diagram below) features 12 squares of 40x60 feet, or 4x6 perches the "perticae" of 10 linear feet, so 2,400 square ft. being a **twelfth** of a 28,800 ft. jugerum.

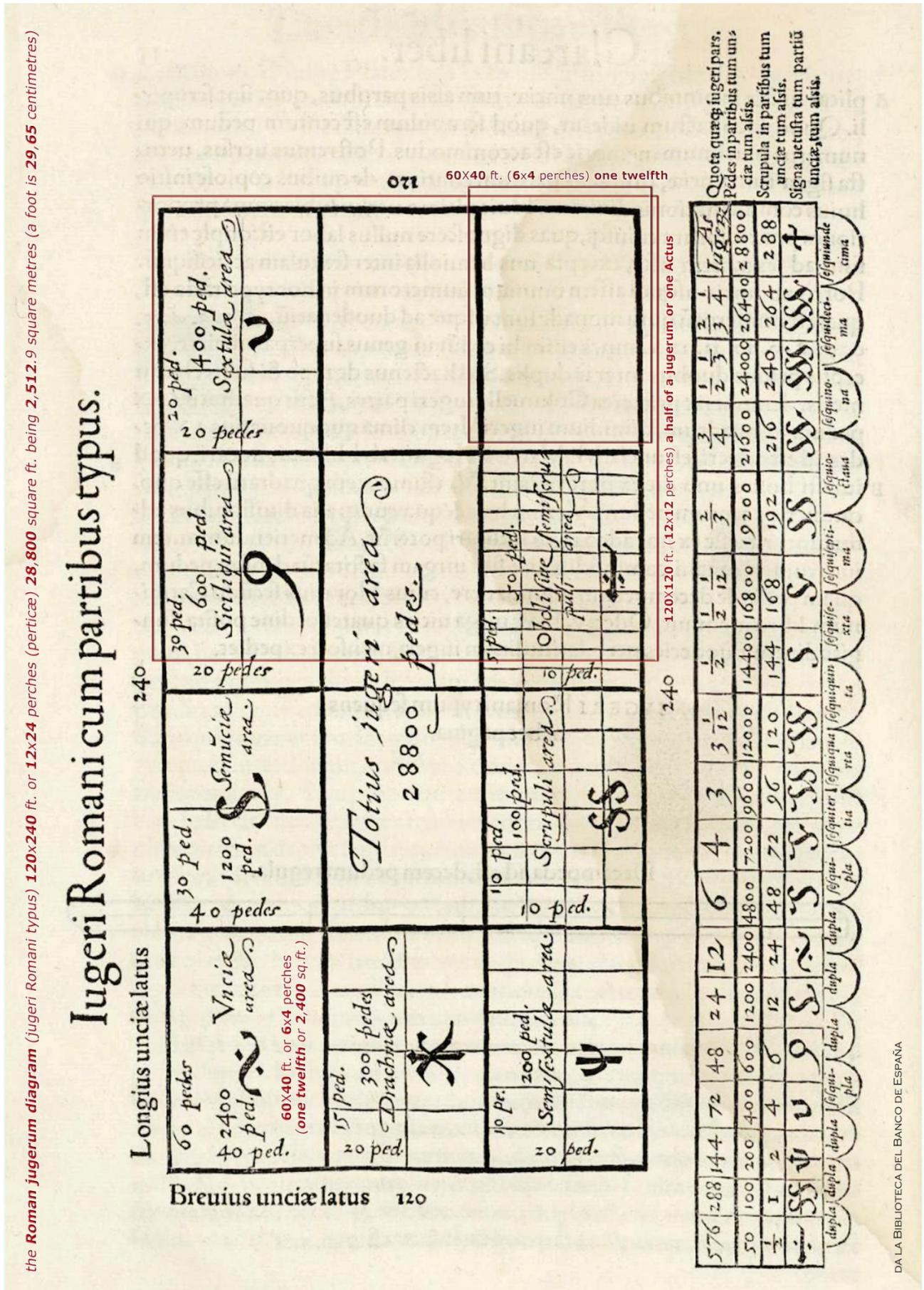
Anyway, out of ancient Romans, the duodecimal system was also used in Altaitalia according to our most chaotic local customs: for instance, our "**pertica**" or the **pole** used to measure square miles and acres, translated in 654 square metres in the meadows around Milan, Lecco, Monza and Gallarate, but translated in 716 square metres in the meadows of Lodi, or 769 in Bobbio and Pavia, so 662 square metres in Bergamo, Clusone, Treviglio, 808 in Cremona and Casalmaggiore, next in 762 in Crema, 781 in Tortona and 783 in Novi Ligure, 688 in Valtellina and 628 in Sondrio. Moreover, this pole could sum up 24 square yards by 12 feet, or even 36 square feet, or sum up 24 square yards in 66 square feet.

The same was for "**brenta**" or **tank** for milk and wine, that is 75 litres in Milan, Monza and Gallarate, but 70 litres in Bergamo, Clusone and Treviglio, 45 in Casalmaggiore, 47 in Cremona and 48 in Crema, 68 in Bobbio, is 71 in Parma and Pavia, 72 in Lomellina and 49 in Voghera, 57 in Alessandria and 73 in Casale Monferrato, 81 in Novi Ligure and 84 in Tortona, again, 60 litres in Valsesia and 53 in Valdossola, 89 in Como and 99 litres in Sondrio.

For sure, we have not learned to "count by twelve" from the Romans: this system is archaic, nor we could have learned all these manners from any tribe of barbarian immigrants. There is here a basic mercantile agreement, it is clear, but no standardisation. To worsen the chaos, each municipality manages his two or three types of "brenta" and "pertica" types: there will be one "normal" and "medium" and "big" for every need. Again, every municipality also uses at least one or two other tanks and perches from "friend" counties or adjacent and distant towns.

Standardisation commenced only at the end of the 18<sup>th</sup> century (before the French Revolution) when the Austrian Reich commanded to use measurements of some capital cities and Wien's pharmacopeia measurements. But the duodecimal system is again preserved today at least into measuring of crops, as far as **rice** is concerned, into the so-called "cultivars" or varieties.

Here the simple measurement of a Roman "jugerum" in the 28,800 feet, and his twelve parts.



The basic Roman foot (**pes**) to measure a jugerum, is today equivalent to 29.65 centimetres. The basic Mailander foot (**pé**) is 44.6202 centimetres, that is also used in Monza, Lodi, Crema, Casalmaggiore, Abbiategrasso, Gallarate, Lecco and Varese counties. The same foot in Pavia will be by 47.1954 cm. or 34.2935 cm. in Asti and 29.2924 in Vercelli. Other counties will have a long foot by 67.9632 cm. and a short foot by 52.7456 as in Valtellina, or even 66.8787 and 52.4184 cm. in Novara, or 68.5870 and 51.4403 as in Biella, together a third and fourth foot that will be ever used from other adjacent or distant friendly counties and provinces.

All these measurements could be inherited from an ancient "chaotic" system, for sure not from a standardised system like that of Romans, anyway not from any standardised system because if a county is using his own system, together with two, three or four other systems from other two or three counties, it is clear that all these counties are happily working together, despite any system, so are fastened in a sort of spider web that welcomes all their systems.

The Romans introduced only one system (the jugerum) not this jumble of feet, tanks, perches and yards, they did not erase these local systems, that are in use again today as are preserved into the Chambers of Commerce and in the actual measurements of crops: here the link to three cultivars/varieties of **rice**, as marketed by SIS Società Italiana Sementi (Bologna) note here the "**pertica milanese**" and "**giornata piemontese**" square measure:

rice of cultivar Volano <http://www.sisonweb.com/it/dettaglio-prodotto.php?idProd=1>

rice of cultivar Loto <http://www.sisonweb.com/it/dettaglio-prodotto.php?idProd=7>

rice of cultivar Gelso <http://www.sisonweb.com/it/dettaglio-prodotto.php?idProd=271>

## Riso > VOLANO

### RISO SEMI GREGGIO

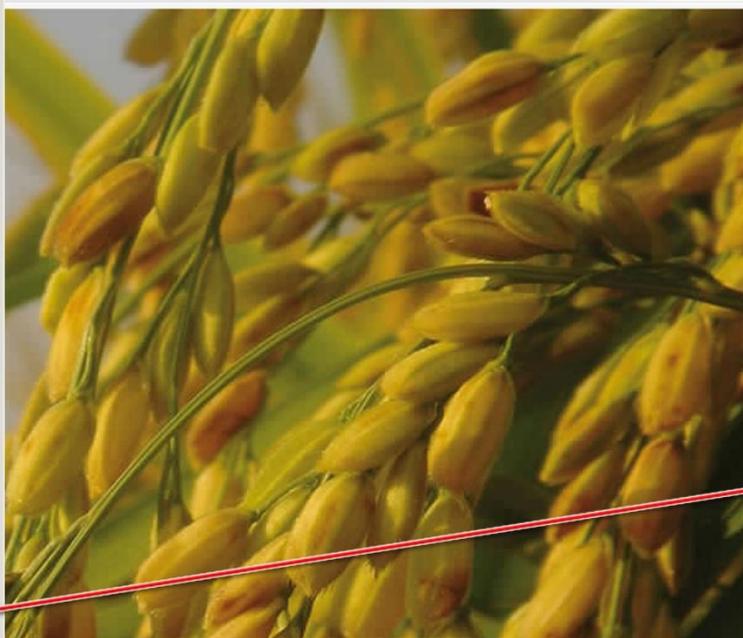
Lunghezza mm	7,20
Larghezza mm	3,30
Rapporto L/I	2,20
Classificazione UE	Lungo A

### RISO LAVORATO

Lunghezza mm	6,79
Larghezza mm	3,20
Rapporto L/I	2,12
Cristallinità %	Perlato
Amilosio %ss	16,6
Consistenza kg/cm <sup>2</sup>	0,70
Collosità g x cm	3,23

### SEMINA

Epoca di semina	fino al 10 maggio
Allettamento	Mediamente Sensibile
Bipolaris Dryzae	Mediamente Resistente
Pyricularia Dryzae	Sensibile
Dose Semina Kg/ha	200-220
P.M. (pertica milanese)	13-15 Kg/PM
G.ta (giornata piemontese)	76-84 Kg/G.ta



19 novembre 2022

Origine: St.401 x Rizzotto  
Costitutore/Resp.Cons.: S.I.S. S.p.A

semina di 200-220 kg. per ettaro (10000 mq.)  
13-15 kg. per **pertica milanese** (654 mq.)  
76-84 kg. per **giornata piemontese** (3810 mq.)

Attitudine produttiva e stabilità, adattabile a tutti gli ambienti di coltivazione, compresi quelli più ostici come i fondi sabbiosi. Riconosciuto in assoluto il miglior riso per la cucina italiana.

That is to say the **duodecimal** system never dies if the system is part of a diffuse culture, even if not taught at schools and in books, like is the case of the rural measurements and rural Calendar as transmitted from generation to generation. Someone claims that diversities of basic measurements in so many adjacent counties is effect of the mediaeval hostility between municipalities. But these counties instead shared and did not refuse the measurement systems of any other adjacent and distant counties.

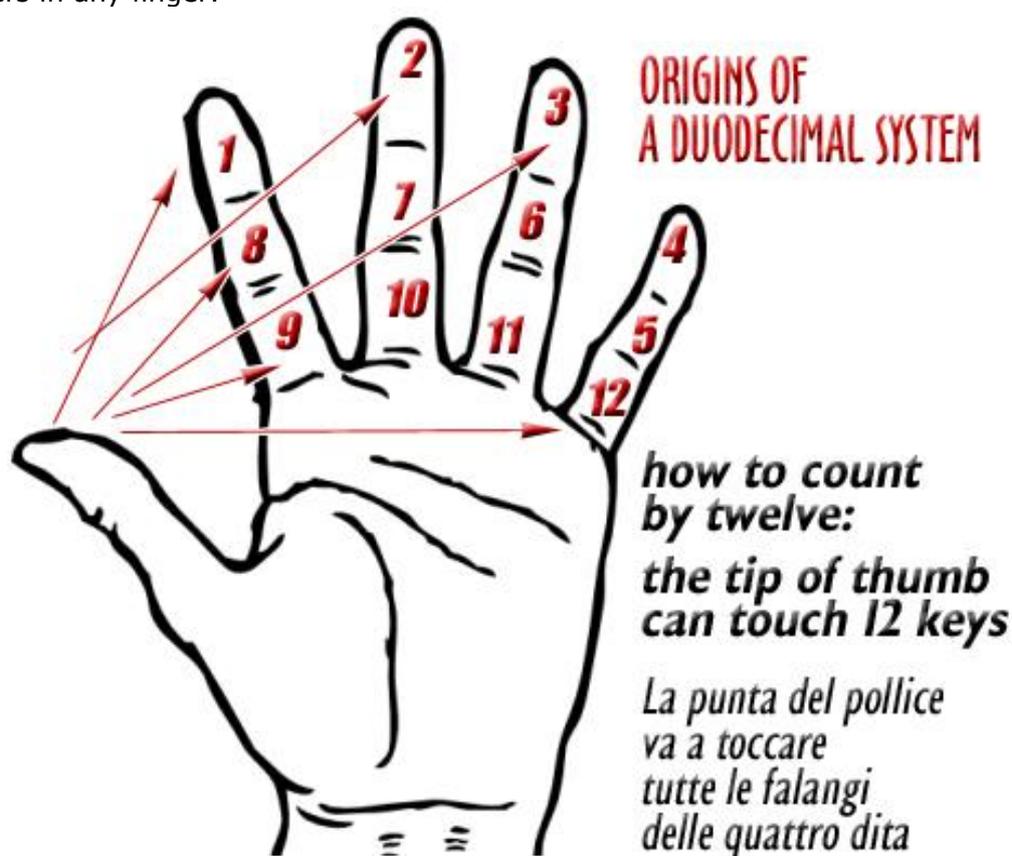
Note that in the two tables below (milanese/mailander types) there are many so-called hostile counties always at war with Milan: that is to say that a basic social agreement between many towns of the **free Alpine hinterland** always existed, despite several local wars. Moreover, the "pertica or brenta of Milan" are typical, not created in Milan, but by the hinterland "milanese" where the system could be named after any other county, like Treviglio, Voghera, Bergamo, Pavia, Monza, Crema, Gallarate, Tortona, Lodi, Novara or Lecco. The tables are a sample of how every system could merge with any other system in the practical use of any country or province of this hinterland... when peoples are not forced to use alien systems, of course.

For sure, these local standards cannot derive from the fall of the Roman standardisation ahead of the middle ages, because there was not enough time to organise them everywhere, as in fact there is not an **interest** to deprecate a Roman standard when already used everywhere.

These systems can only exist paralleling the Roman's since prehistory, because it seems an exclusive friendship with local systems, connected with the entire hinterland: only a friendship can unfold the diversity of so many strange and connected systems.

The use of the duodecimal system as preserved today into rural measurements and rural Calendar grants two "**social institutions**" that could not be shared with any Roman system, nor with any barbarian immigrant, but archaic, aboriginal traditions.

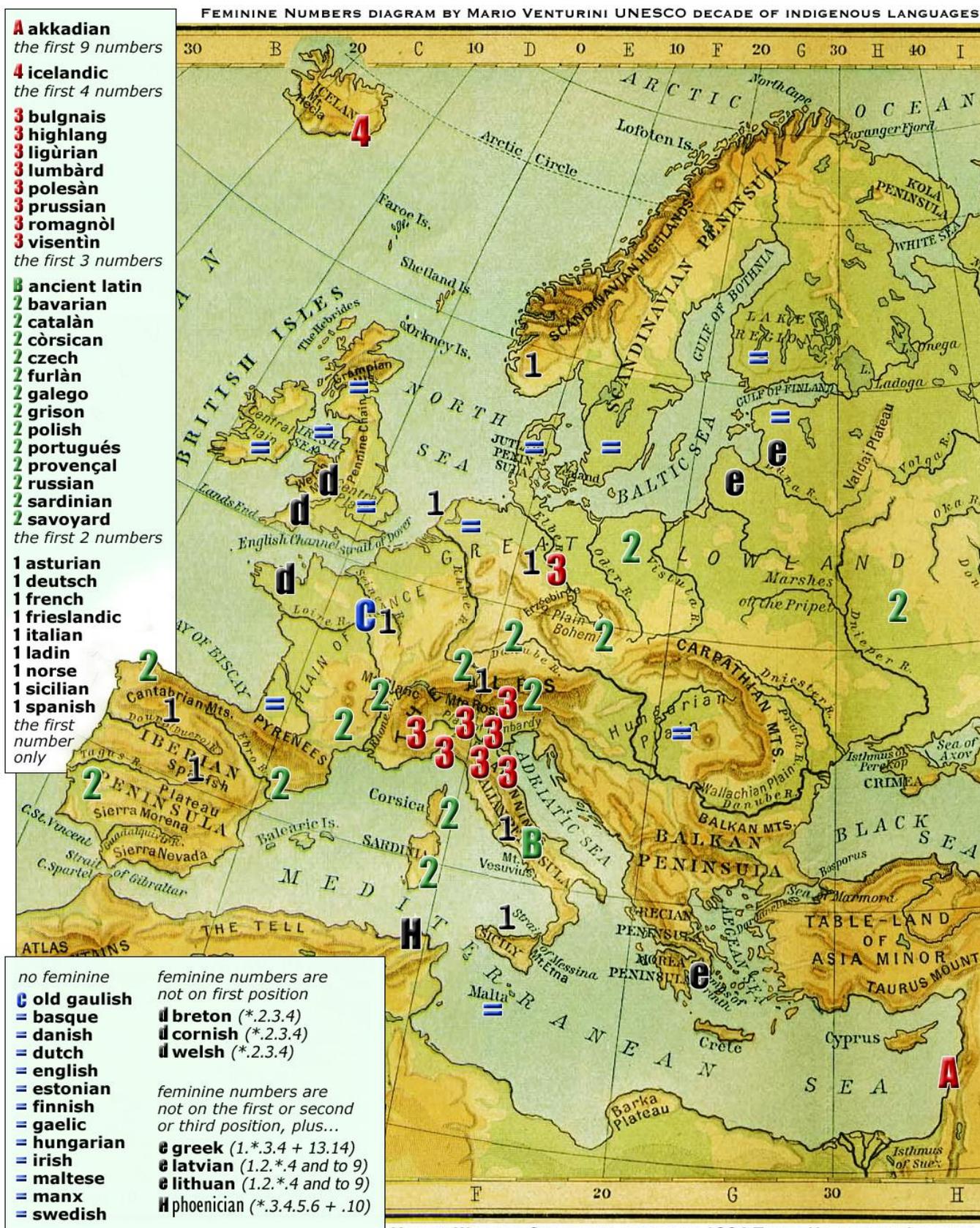
The primeval **origin** of a duodecimal system is that you can count your numbers on a single hand: tree numbers in any finger.



Some modern grammars claim that "numbers don't exist" because are simple numeral adjectives, so their masculine or feminine form cannot be used, if not by other parts of the speech. Some grammars do not. For instance, into the Chambers Student Learner's Dictionary (Edimburg) we read the "parts of speech" where the numbers are numbers (pag.8) as adjectives and nouns are another part of the same speech.

The "first three numbers" as spelled in a masculine or feminine form, even if not preserved everywhere are typical of the Alpine hinterland: it seems of the Romans... but, their number three is not pronounced with the feminine form, or at least it is confused with the masculine.

Here the custom to name the feminine form of the first three numbers, in Ligurian, Bulgnais, Highlang, Lumbard, Romagnolian, Polesan and Visentin languages, between the Simplon valley and Monegasque dialects, to Genoa, Rimini, Bassano del Grappa, Castionetto, Novara, Milan, Domodossola, Como, Bergamo, Bologna, Rovigo, Vicenza, Ravenna, Faenza, Imola and Forlì.



first three numbers by masculine/feminine	number 1		number 2		number 3	
	m.	f.	m.	f.	m.	f.
Liguria <b>Borgomaro</b>	ün	üna	dui	due	trei	tre
Liguria <b>Coldirodi</b>	in	ina	düi	due	trei	tré
Liguria <b>Terzorio</b>	un	una	dui	due	tre	trei
Liguria <b>Castel Vittorio</b>	ün	una	dui	due	tréi	trèe
Liguria <b>Cichero</b>	un	una	doi	doe	trei	trae
Liguria <b>Torrio</b>	un	una	doi	doe	trei	trae
Liguria <b>santa Margherita</b>	un	una	doi	doe	trei	trae
Liguria <b>Montecarlo</b>	ün	üna	dui	due	trei	tre
Liguria <b>Nizza</b>	un	una	doi	doas	---	---
high Piedmont <b>alta Langa</b>	ün	üna	düi	düe	traï	trè
high Piedmont <b>Boves</b>	un	una	dui	doas	---	---
low Piedmont <b>Biella</b>	an	`na	doi	doe	---	---
Savoy <b>Lanslevillard</b>	yon	eûnâ	dou	dyeû	---	---
Savoy <b>Macot la Plagne</b>	voun	ouya	dou	dave	---	---
Emilia <b>Bologna</b>	òn	ònna	dû	dâu	trî	traï
Romagna <b>Ravenna</b>	on	ona	du	dò	tri	trè
Romagna <b>Faenza</b>	on	ona	du	dò	tri	trè
Romagna <b>Imola</b>	on	ona	du	dò	tri	trè
Romagna <b>Forlì</b>	on	ona	du	dò	tri	trè
Romagna <b>Rimini</b>	un	una	du	dò	tré	trè
Rovigo <b>alto Polesine</b>	un	na	du	do	tri	tre
Vicenza <b>Caltran</b>	un	na	du	do	tri	tre
Vicenza <b>Bassano del Grappa</b>	uno	una	du	do	tri	tre
Lombardy <b>Brescia</b>	giü	giöna	du	dò	tre	trè
Lombardy <b>Cremona</b>	ön	jöna	düu	dò	triì	trè
Lombardy <b>Bergamo</b>	ü	öna	du	dò	tri	trè
Lombardy <b>Como</b>	vün	vüna	düi	dò	trii	trè
Lombardy <b>Tirano</b>	vün	vüna	dü	düi	trii	trèi
Lombardy <b>Castionetto</b>	ün	üna	dü	dò	tri	tre
Lombardy <b>Chiuro</b>	ün	üna	dü	dò	---	---
Lombardy <b>Poschiavo</b>	ün	üna	doi	dua	---	---
Lombardy <b>Domodossola</b>	vün	vüna	düi	du/dò	trij	tré
Lombardy <b>Valle Anzasca</b>	un	una	dui	du	trei	tre
Lombardy <b>Val Divedro</b>	ugn	üna	doi	du	tri	treil
Lombardy <b>Val Vigizzo</b>	in	ina	dui	du	---	---
Lombardy <b>Novara</b>	vün	vüna	dü	dò	tri	tré
Lombardy <b>Milano</b>	vün	vüna/vöna	dü	du/do	tri	tré
Grisons <b>Sursilvan</b>	in	ina	dus	duas	---	---
Grisons <b>Sutsilvan</b>	egn	egna	dus	duas	---	---
Grisons <b>Surmiran</b>	egn	egna	---	---	---	---
Ladin Grisons <b>Putér</b>	ün	üna	---	---	---	---
Ladin Grisons <b>Vallader</b>	ün	üna	---	---	---	---
Ladin <b>Furlan</b>	un	une	doi	dôs	---	---
Ladin <b>Val di Non</b>	un	una	---	---	---	---
Ladin <b>Val Gardena</b>	un	una	doi	doves	---	---
Ladin <b>Val Badia</b>	un	öna	dui	döes	---	---

The main **rural measurements** (being **duodecimal**) into Provinces where are used even the **foot**, the **brenta**, the **pond**, or the **mailander pertica**.

Province of:	AREA or square metres			DISTANCES or lengths			WEIGHTS		FLUIDS
	<b>Pertica</b> <i>mq.</i>	square <b>Arm</b> <i>mq.</i>	<b>Arm d'ax</b> <i>mq.</i>	<b>Arm or Branch</b> <i>mt.</i>	<b>Foot</b> <i>mt.</i>	<b>Pound</b> <i>kg.</i>	gross <b>Pound</b> <i>kg.</i>	<b>Brenta</b> <i>lt.</i>	
<b>Milano</b>	654.5179	0.353949	1.415798	0.594936	0.446202	0.326793	0.762517	75.5544	
<b>Bergamo</b>	662.3082	0.282401 by square factory		0.659319 mercantile		0.325129	0.812822	70.6905	
<b>Cremona</b>	808.0469	0.233810		0.483539 by factory		0.309489		47.4655	
<b>Parma</b>	3081.4390 <i>biolca</i>			0.545167 by timber and wall		0.328000		71.6720	
<b>Alessandria</b>	3048.3158 <i>biolca</i>			0.667120 long or 0.530480 short		0.314071		57.8394	
<b>Novara</b>	3066.0355 <i>moggio</i>	1.469976		0.668787 long or 0.524184 short		0.325474	0.759439	54.6797	
<b>Como</b>	703.6367	0.353949		1.415798		0.594936	0.791665	89.8062	
<b>Sondrio</b>	688.0776 of <i>Valtellina</i>	628.6000 of <i>Sondrio</i>		0.679632 long or 0.527456 short		0.309222	0.797882	99.9305	

the mercantile **Branch** of Milan divides by 12 Ounces, and an **Ounce** by 12 **Points** (so 3000 Branches make one Lombard **Mile** by 1784.808 metres) it is early named "by factory and by timber" but next being compulsory by the Austrian Reich with laws of june 30<sup>th</sup> and of august 31<sup>st</sup> on year 1781, the rural **Pertica** divides by 24 **Tables**, by 12 **Feet** each, and the **Foot** of Table is named **Cast-Foot** (Gettata-Piede) that divides by 12 Ounces, by 12 Points each, the **square Branch** is by 144 square Ounces, so by 144 square Points each,

the **Branch d'ax** divides by 12 Ounces, so by 12 Points each (is a rectangle, 4 Branch long and 1 Branch large)

the **Brenta** divides by 3 **Stays** by 4 **Quarts** each, by 8 **Jugs** each, or even divides by 6 **Buckets** by 16 Jugs each (2 **Jugs** being one **Pint** by 1.57405 litres)

the **gross Pound** divides by 28 Ounces, so ten gross Pounds are a **Weight** and 100 gross Pounds are named a **Bundle** or a **Hundred**, the (little) **Pound** divides by 12 Ounces, so 25 little Pounds are a **Rub** when 100 little Pounds are a **Quintal**,

the **Brenta** of **Bergamo** divides by 6 **Buckets**, by 9 **Pints** each (1.309083 litres) and by 2 **Jugs** each (0.654541 litres each) but in **Piazza Brembana, Serina** and **Zogno** the **Pint** can be of 1.636354 litres or even 1.527264 litres,

the **Brenta** of **Cremona** divides by 75 **Jugs** and the Jug by 2 **Half**, the **Brenta** of **Casalmaggiore**, or **Brentina**, divides by 4 **Quarts** by 9 **Pints** each, the **square Pertica** of **Cremona** is by 36 **Feet** or square **Branch** and the square **Branch** or **Quadretto** divides by 12 **Ounces**, by 12 **Points** each,

the **Biolca** of **Parma** divides by 6 **Stays**, by 12 **Tables** by 4 square **Perches**, and the **Pertica** in 36 square **Branches**, the **Pertica** of **Piacenza** is used in **Varsi** too, by 24 **Tables** by 12 **Feet** or rural **Branches**,

the **Brenta** of **Alessandria** divides by 34 **Pints**, the **Brenta** of **Bassignana** (71.4327 litres) in 48 **Pints** and the **Brenta** of **Valenza** (53.5824 lit.) in 36 **Pints**,

the **Moggio Novarese** was by 4 **Perches** early, but next by 8 **Stays** by 12 **Tables** each, there are six diverse mailanders **Pounds** in **Valdossola**, the **Brenta Novarese** for wine divides by 36 **Pints** by 2 Jugs each, the **Brenta fir the milk** is by 96 **Jugs** and divides by 3 **Stays** of 32 Jugs each,

the **Brenta** of **Como** divides by 6 **Stays** by 4 **Quartans** each, by 2 **Jugs** each, but in **Lecco** divides by 84 **Jugs** each, and by 2 **Half** of 2 **Glasses**,

the **Brenta di Valsassina** (0.971414 litres) divides by 96 **Jugs** each, like the **Brenta** of **Mandello** by 0.863479 litres,

the **Pound** of **Como** (0.949986 kg) for bread is 36 **Ounces**, the **gross Pound** is 30 **Ounces** and the little is 12 **Ounces**, the **gross Pound** of **Lecco** in 32 Ounces,

the **Pertica** of **Chiavenna** (667.0481 mq.) divides by 24 **Tables** by 25 square **Pass**, or divides by 66 square **Staggas** and two thirds.

The main rural measurements (being **duodecimal**) into Provinces where are used even the **foot**, the **brenta**, the **pound**, or the **mailander pertica**.

Province and County of:	AREA or square metres			DISTANCES or lengths			WEIGHTS		FLUIDS	
	Pertica <i>mq.</i>	square Arm <i>mq.</i>	Arm d'ax <i>mq.</i>	Arm or Branch <i>mt.</i>	Foot <i>mt.</i>	Pound <i>kg.</i>	gross Pound <i>kg.</i>	Brenta <i>litri</i>		
<b>Milano</b>	654.5179	0.353949	1.415798	0.594936	0.446202	0.326793	0.762517	75.5544		
Abbiategrosso	654.5179	0.353949	1.415798	0.594936	0.446202	0.326793	0.762517	75.5544		
Gallarate	654.5179	0.353949	1.415798	0.594936	0.446202	0.326793	0.762517	75.5544		
Lodi	716.5243	0.353949	1.415798	0.667697	0.446202	0.320735	0.748381	82.7538 <i>mil.</i>		
Monza	654.5179	0.353949	1.415798	0.594936	0.446202	0.326793	0.816983	75.5544		
<b>Bergamo</b>	662.3082	0.282401 by square factory		0.659319 merc.	0.531414 by fact.	0.325129	0.812822	70.6905		
Clusone	662.3082	0.282401 by square factory		0.659319 merc.	0.531414 by fact.	0.325129	0.812822	70.6905		
Treviglio	662.3082	0.282401 by square factory		0.659319 merc.	0.531414 by fact.	0.325129	0.812822	70.6905		
<b>Cremona</b>	808.0469	0.233810	1.402859	0.483539 by factory		0.309489		47.4655		
Casalmaggiore	808.0469	8.417155 sq. Per.	1.402859	0.666980	0.446202	0.309489		45.5669		
Crema	762.7364	0.233810	1.103496	0.670164	0.446202	0.325474	0.813685	48.5346		
<b>Parma</b>	3081.439 <i>biolca</i>			0.639500 cloth	0.587750 of silk	0.328000 Par.	0.317517 <i>Piac.</i>	71.6720		
Borgo s. Donnino	3081.439 <i>biolca</i>	762.0186 <i>Piac.</i>	809.5887 <i>Pol. P.</i>	0.639500 cloth	0.587750 of silk	0.328000 Par.	0.309500 <i>Pole. P.</i>	71.6720		
Borgotaro	3081.440 <i>biolca</i>			0.678000 cloth	0.545167 of wall	0.330000 Bor.	0.314400 <i>Com.</i>	71.6720		
Pavia	769.7918	0.353949	1.583934	0.629272	0.471954	0.318725	0.743692	71.4427		
Bobbio	769.7918			0.677000	0.250000 <i>Palmo</i>	0.316750		68.6880		
Lomellina	789.6352	0.395983	1.583934 <i>sqr.</i>	0.629272	0.600137 <i>Raso</i>	0.318725	0.743692	72.9063		
Voghera	769.7918 <i>Pav.</i>	654.5179 <i>Mil.</i>	1.583934	0.668787	0.476250 of <i>Tort.</i>	0.319380	0.745220	49.3069		
<b>Alessandria</b>	769.7914 <i>Pv.</i>	3048.3158 <i>biolca</i>	1.583933 <i>timb.</i>	0.667120 long or	0.530480 short	0.314071 and	0.307400 <i>farm.</i>	57.8394		
Acqui	3810.3948 <i>giornata Piedmontese</i>			0.670000 long or	0.526000 short	0.325380 and	0.368880	74.0000		
Asti	3810.3948 <i>giornata Piedmontese</i>			0.600137 <i>Raso</i>	0.342935	0.368880		49.3069		
Casale Monferrato	3238.6366 <i>moggia and</i>	404.8296 <i>stay</i>		0.670000 long or	0.526000 short	0.325380		73.2105		
Novi Ligure	783.8694 and	32.6612 <i>table of Serravalle</i>		0.744250		0.316750	0.317664	81.5700		
Tortona	781.4025	32.5584 <i>table</i>		0.670000 long or	0.526000 short	0.325650		84.8623		
<b>Novara</b>	3066.0355 <i>moggio</i>		1.469976	0.668787 long or	0.524184 short	0.325474	0.759439	54.6797		
Biella	3810.3948 <i>giornata</i>			0.685870	0.514403 <i>braccet.</i>	0.368880		49.3069		
Ossola	1573.1083 <i>stay</i>		1.415798 <i>timb.</i>	0.668787 cloth	0.524184 of silk	0.326793	0.980379	53.9912		
Pallanza	1274.2178 <i>stay</i>			0.680000 cloth	0.525000 of silk	0.326793	0.762517	56.6658		
Valsesia	3066.0355 <i>moggio</i>			0.682000 long or	0.530000 short	0.361468	0.843425	60.2760		
Vercelli	3810.3948 <i>giornata</i>			0.600137 <i>Raso</i>	0.292924	0.368880		49.3069		
<b>Como</b>	703.6367	0.353949	1.415798	0.594936	0.451219	0.316662	0.791665	89.8062		
Lecco	654.5179	0.353949	1.415798	0.594936	0.446202	0.326793	0.871448	75.5544		
Varese	654.5179	0.353949	1.415798	0.594936	0.446202	0.326793	0.762517	75.5544		
<b>Sondrio</b>	688.0776 of <i>Sondrio</i>	667.0481 of <i>Chiavenna</i>		0.679632 long or	0.527456 short	0.309222	0.797882	99.9305		