

DUAL LAWS (well, descriptive generalisations over many languages) – and what they conceivably mean

- (1A) If the Dual extends to nouns, it also extends to personal pronouns.
- (2H) If the Dual extends to non-pronominal agreement forms, it also extends to both personal pronouns and nouns.
- (3P) If the Dual extends to non-pronominal agreement forms, it also extends to personal pronouns or nouns.
- (4P) If the Dual extends to non-pronominal agreement forms, it also, with more than chance frequency, extends to personal pronouns.

- (5H) If 3rd Person differentiates a Dual, so does 2nd, and vice versa.
- (6H) If 2nd and 3rd Person differentiate a Dual, so [with more than chance frequency] does 1st (but not vice versa).
- (7P) If 3rd Person differentiates a Dual, so, with more than chance frequency, does 2nd.
- (8M) If 1st Person Exclusive differentiates a Dual, so does 1st Person Inclusive. [But is 1INCL a dual?]
- (9P) If only one Person does not differentiate a Dual, it will not be 2nd.
- (10P) If only one Person differentiates a Dual, it will very likely be 1st rather than 2nd or 3rd.
- (11P) If only two Persons differentiate a Dual, 1st is much likelier to be one of them than 3rd.

- (12P) If a Dual, or any other Number, is differentiated for a particular Person of non-pronominal agreement forms, there will also be a Dual, or other Number, for this Person in pronouns.
- (13P) In NP-internal agreement, if adjectives inflect for the Dual, so do demonstratives.
- (14P) The Dual does not extend to non-pronominal NP-internal agreement unless it extends to nouns.
- (15P) [With more than chance frequency] The Dual does not extend to non-pronominal NP-external agreement unless it extends to personal pronouns.

- (16H) If there is a Dual with nouns other than those denoting natural pairs, there will be one with natural-pair nouns as well.
- (17P) If some nouns are eligible for Dual marking while others are not (or less readily), the criteria are whether they denote (i) natural pairs, (ii) not natural pairs, or (iii) salient counting units, unless the criterion is the same as that determining the eligibility of nouns for other Number differentiations (to do with animacy).
- (18P) If the pronominal Dual does not extend to 3rd Person, there very likely is no nominal Dual at all, or, if there is one, it is restricted.
- (19P) If the extension of the pronominal Dual is limited and includes 3rd Person, all nouns or at least some of them (from the permissible classes) have a Dual.

- (20P) The nominal Dual is likelier to be restricted to natural pairs if the pronominal Dual is unrestricted than if it is restricted to whatever Person(s).
- (21P) If the nominal Dual is restricted to natural pairs, the likeliest pronominal Dual is that of 1st and perhaps 2nd Person.
- (22P) If the nominal Dual is restricted in terms of animacy, the likeliest pronominal Duals are those of 1st and 2nd Person.
- (23P) If the nominal Dual is restricted to nouns other than those denoting natural pairs, the pronominal Dual is unrestricted.
- (24P) If the Dual does not extend beyond nouns, it will normally be restricted to a semantic subclass of them.
- (25P) If the Dual is conceived of as a Paucal limited to two referents, it will extend to all Persons of the pronoun and all classes of nouns inflecting for Number.

- (26P) If 2nd and 3rd Persons (and perhaps 1st Exclusive) differentiate a Dual conceived of as a collective-singular for ensembles of two, so does 1st Person (Inclusive).
- (27P) If there is a Dual conceived of as a collective-singular for ensembles of two with nouns other than those denoting natural pairs, there will be one with natural-pair nouns as well.
- (28P) If the Dual extends to all Number-inflecting personal pronouns and nouns, its conception will be that of a duo-paucal rather than of an ambal; if Dual extensions are restricted in the nominal or pronominal domain, especially to natural pairs or 1st Persons, the conception is likelier to be that of an ambal than of a duo-paucal.

- (29G) No language has a Trial Number unless it has a Dual; no language has a Dual unless it has a Plural.
- (30P) No word or no word-form, in any language, differentiates a Dual unless it differentiates a Plural.
- (31H) If a language has a Duo-Paucal, it will also contrast a general Paucal with a Multal.
- (32P) If the nominal Dual is restricted to nouns other than those denoting natural pairs, Dual marking is avoided with these nouns if contextually redundant.
- (33P) If a nominal Dual is used even if contextually redundant, its extension includes natural-pair nouns.

- (34W) If there are more than two (pronominal) Numbers, personal pronouns tend to distinguish Inclusive and Exclusive, and vice versa.
- (35S) If personal pronouns distinguish Inclusive and Exclusive, there will be a Dual (but not vice versa).
- (36P´) If the Dual is limited to nouns, personal pronouns are unlikely to distinguish Inclusive and Exclusive.
- (37W) If there are more than two (pronominal) Numbers, demonstratives tend to have a more than binary (in particular, a ternary) contrast of Distance, and vice versa.
- (38P´) If the Dual is limited to nouns, demonstratives tend to have a binary contrast of Distance.

- (39F) If there are more than two Numbers, there tend to be numeral classifiers, and vice versa.
- (40P´) If the Dual is limited to personal pronouns, the likelihood of basic word order being SVO relative to SOV, and of being VOS or OVS relative to VSO, increases.
- (41P´) If the Dual is limited to nouns, the likelihood of basic word order being SVO decreases, in particular relative to to VSO.

Sources

- A Apocryphal
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- H Humboldt, Wilhelm von. 1830. Über den Dualis. *Abhandlungen der historisch-philologischen Klasse der Königlichen Akademie der Wissenschaften zu Berlin aus dem Jahre 1827*, 161-187. [Repr. *Gesammelte Schriften*, vol. 6, 4-30. Berlin: Behr, 1907.]
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Or as updated in, in light of DuDa (the Konstanz Dual Database, compiled by Frans Plank, Wolfgang Schellinger, et al. a long time ago):
- Plank, Frans. 1996. Domains of the dual, in Maltese and in general. *Rivista di Linguistica* 8. 123-140. (Special issue on Maltese, ed. by Albert Borg & Frans Plank.)
- P' Plank, Frans. 2003. The selective elaboration of nominal or pronominal inflection. In Frans Plank (ed.), *Noun phrase structure in the languages of Europe*, 253-287. Berlin: Mouton de Gruyter.
- S Schmidt, P. Wilhelm. 1926. *Die Sprachfamilien und Sprachenkreise der Erde*. Heidelberg: Winter.
- W Wundt, Wilhelm. 1904. *Völkerpsychologie*. Vol. 1, Part 2. (2nd edn.) Leipzig: Engelmann.

And of course also consult THE UNIVERSALS ARCHIVE at <http://typo.uni-konstanz.de/archive/intro>, searching for dual under Keywords!

Tesnière's hierarchies of dual-stability (or also dual-worthiness?)

1. **Word-classes**

- a. Personal Pronouns (/Verbs) > Numeral/Quantifier '2/both' > Nouns > Demonstratives > Adjectives (> Verbs)
- b. Nouns > ...

2. **Semantic classes: Concreteness**

Concrete > Abstract

3. **Semantic classes: Animacy**

Human/Person > Non-Human

4. **Functional classes**

Heads > Modifiers/Determiners

(or: Agreement Triggers > Agreement Targets)

5. **Syntactic functions of adjectives**

Attributive > Predicative

- 6. Morphological classes: Gender**
 - a. Masculine > Neuter > Feminine
 - b. Feminine > Neuter > Masculine
- 7. Morphological categories: Person**
 - a. 1st/2nd > 3rd
 - b. 2nd/3rd > 1st
- 8. Morphological categories: Case**
 - a. Nominative-Accusative > Instrumental > Dative > Genitive > Locative
 - b. ... > Locative > Genitive
- 9. Syntactic contexts of nouns** (and pronouns and other words?)
accompanying Numeral/Quantifier '2/both' > antecedent marked for Dual > no coreferent marked for Dual
- 10. Cross-categorial correlations: Comparison and Number**
Comparative > Dual

source:

Tesnière, Lucien. 1925. *Les formes du duel en slovène*. Paris: Champion, with an *Atlas linguistique pour servir à l'étude du duel en slovène*.

(His *Éléments de syntaxe structurale* pale into insignificance by comparison.)

Universals??? Well, according to Tesnière 1925 true at least for:

- 1a. Slovene, Gothic, Old Norse, Serbo-Croat (N > Adj)
- 1b. Old Irish, Old Slavonic, Polish, earlier (16th century) Slovene?
2. Slovene, etc.
3. Slovincian
4. Slovene
5. Slovene
- 6a. Slovene, Ancient Greek, Lithuanian
- 6b. Slovincian
- 7a. Slovene (PersPro)
- 7b. Slovene (Verb)
- 8ab. Slovene
9. Slovene
10. Slovene, Romance, etc.

Dual laws temporalised

following Plank, Frans & Wolfgang Schellinger. 2000. Dual laws in (no) time. *Sprachtypologie und Universalienforschung* 53. 46-52.

- (1) If there is a dual, it will inevitably be lost
– and the sooner the further the cultural complexity of a speech community is increasing.
- (2) If there is a quattral, then there is also a trial; if there is a trial, then there is also a dual; if there is a dual, then there is also a plural.

Hence (synchronically) unlawful inventories of Numbers:

**only quattral; *only trial; *only dual; *only quattral and trial;
*only quattral and dual; *only quattral and plural; *only trial
and dual; *only trial and plural; *only quattral, trial, and dual;
*only quattral, trial, and plural; *only quattral, dual, and plural
– always plus singular*

(2') Quattrals can only develop from trials, trials only from duals, duals only from plurals.

Mechanism of change: **morphological reanalysis**

(2'') If quattral, trial, or dual forms are reanalysed as other numbers, it will normally be as plurals or paucals or rarely also as singulars (perhaps polite/formal singulars), and never the other way around. Generalisation: **Marked** can be reanalysed as **less marked**, but not the other way round.

Mechanisms of change: (i) **morphological reanalysis**, (ii) **grammaticalisation/univerbation of free forms** (sources: numerals/quantifiers, number-marked pronouns), (iii) **analogical extension**, (iv) **borrowing**

(2''') A quattral can only be innovated if there is a trial; a trial can only be innovated if there is a dual; a dual can only be innovated if there is a plural.

Mechanisms of change: (i) **morphological reanalysis**, (ii) **discontinuation**, (iii) **phonological effacement of forms**

(2''''') A plural can only be lost if there is no dual; a dual can only be lost if there is no trial; a trial can only be lost if there is no quattral.

Some Uralic developments, for better or worse

Finnish (Finno-Ugric, Uralic)

according to Rédei 1998, Korhonen 1981, Itkonen 1961

(Person forms – *m-*, *t-*, *s-* – were independent of number in proto-Uralic.)

	previous			now	
	SG	DU	PL	SG	PL
1	* <i>m-</i>			minä, ACC minu-t	me
2	* <i>t-</i>			sinä, ACC sinu-t	te
3	* <i>s-</i>			hän, ACC häne-t	he

☞ The accusative singular forms are dual forms reanalysed as singular.

Fine: **marked** reanalysed as **unmarked**.

Vogul, Ostyak (Ob-Ugric, Finno-Ugric, Uralic)
according to Rédei 1998

1st, 2nd, 3rd person personal pronouns have *-n* in the dual, which has been extended from proto-Uralic plural.

Not so fine: **less marked** reanalysed as, or extended to, **marked**.

Ostyak (Ob-Ugric, Finno-Ugric, Uralic)

according to Vértés 1967

	previous (literary)			Northern (Schuriskas and Synja dialects)		
	SG	DU	PL	SG	DU	PL
1	ma	min	muŋ	ma	min	muŋ
2	naŋ	nən	naŋ	naŋ	—	nən
3	tuw	tən	təw	tuw	tən	təw

☞ loss of dual in 2nd person, continuation in 1st and 3rd.

The story:

- homonymy SG = PL in essentially all case forms (slight difference only in DAT);
- to re-establish SG ≠ PL contrast, dual forms were reanalysed as plurals, with no dual left in 2nd person (which is an illicit extension, offending against the contiguity requirement; but it is brought about lawfully: **marked** reanalysed as less **marked**).

Nganasan (aka Tawgi; Northern Samoyedic, Uralic),
according to Helimski 1998

	previous		now		
	SG	PL	SG	DU	PL
1	mon	mi	mənə	mi	miŋ
2	ton	ti	tənə	ti	tiŋ
3	so	soos	siti	siti	sitiŋ

☞ **Plural** forms were reanalysed as **dual**, and new plural forms were created.

Not so fine: **less marked** reanalysed as **marked**.

(3) If the dual extends to nouns, it also extends to personal pronouns.

Lawful dual extensions:

neither pronominal nor nominal dual; only pronominal dual;

both pronominal and nominal dual;

unlawful dual extension:

**only nominal dual*

(3') A nominal dual can only develop from a pronominal dual.

Possible mechanisms for transferring a pronominal dual to nouns:

(i) the use of entire 3rd person pronouns, including their own number marking, for the number marking of nouns, and (ii) the analogical extension of pronominal number marking to nouns.

(4) If a dual can only develop from a numeral ‘two’ by means of univerbation and downgrading of a word to an affix, what would follow about the dual’s extension across nouns and pronouns?

	word order	ease of affixation	result
a.	Num N	no	Num N
	Pro Num	yes	Pro-DUAL
b.	Num N	no	Num N
	Num Pro	no	Num Pro
c.	N Num	yes	N-DUAL
	Pro Num	yes	Pro-DUAL
d.	N Num	yes	N-DUAL
	Num Pro	no	Num Pro

(5) Hierarchy of Dualworthiness (aka ...)

Pronouns				Nouns		
1st		2nd	3rd	Person/Animate		Inanimate
Incl	Excl		Prox Dist	Natural Pairs		others
				Non-Pairs		others
				Measures		others

requirements, in all languages and at all times:

- contiguous coverage
- coverage extending from an edge
- coverage extending from left edge (?)

hence:



See transparency for the facts.

(from DAS GRAMMATISCHE RARITÄTENKABINETT, at <http://typo.uni-konstanz.de/rara/intro/>, No. 73)

- (5') Only 1st person pronouns can innovate a dual without 2nd and 3rd person also doing so.
 - (5'') 1st person pronouns can lose the dual only if 2nd and 3rd person have done so, too, or have never had a dual.
 - (5''') When nouns have innovated a dual (a rare event), it can only spread to 3rd person, and only via 3rd person to 2nd and 1st person.
- (6) If a dual is limited to nouns, the likelihood of basic word order being SVO decreases, in particular relative to VSO.

For temporalisation, which is a longer story, see Plank 2003.

An imperative of linguistic change?

Quidquid agis prudenter agas et respice finem.

(Aesop, Fables)

– to be borne in mind perhaps for TARGETED change, but not for INCIDENTAL change.