Syntactic Universals and Usage Frequency
(MARTIN HASPELMATH, Leipzig Spring School on Linguistic Diversity, March 2008)

4. Causatives and anticausatives

1. An ambiguity of the term "causative"

causative 1: "**a special verb** form or construction that denotes a situation which contains a causing subevent and a resulting situation"

e.g. Japanese *kawak-**asu*** 'make dry' (cf. *kawaku* 'become dry')
("morphological causative")
e.g. English ***make** laugh*
("periphrastic/analytic/syntactic causative")

(1) [X CAUSE [Y LAUGH]]

causative 2: "any verb form or construction of this sort"

e.g. English *cut, destroy, wash*, etc.

(2) [X CAUSE [Y BECOME.CLEAN] WITH.WATER]

("lexical causative"; but cf. Song 2001: 260:
"The lexical causative type involves suppletion. There is no formal similarity between the basic verb and the causative counterpart...*sterben/töten, sinu/korosu...")*

-- what if there is no "basic verb", and hence no suppletion?
-- in what sense is *sterben* basic and *töten* not basic?

a new term pair: **plain verb vs. causal verb:**

a ***causal verb*** is a verb denoting a situation containing a causing subevent and a resulting situation (= causative 2)

a ***plain verb*** in a *plain/causal pair* is the verb denoting only the resulting situation of the causal verb:

(3)

plain	**causal**	
kawaku 'become dry'	*kawak-asu* 'make dry'	
laugh	*make laugh*	
sterben	*töten*	
wañu- 'die'	*wañu-chi-* 'kill'	(Quechua)
wañu-chi- 'kill'	*wañu-chi-chi-* 'make kill'	
lomat'-sja 'break (intr.)'	*lomat'* 'break (tr.)'	(Russian)
undergo washing	*wash*	

causative = overtly coded causal (e.g. *wañu-chi-* 'kill')
anticausative = overtly coded plain (e.g. *lomat'-sja* 'break (intr.)')

2. Inchoative-causative alternations (Haspelmath 1993)

• with many plain/causal pairs, there is little or no cross-linguistic variation in the type of coding

'laugh/make laugh':
causal is almost always coded with **causative** marker
'undergo washing/wash':
plain is almost always coded with **anticausative** marker

But verbs of the following sort tend to differ in their coding across languages:

1. 'wake up (intr.)/(tr.)'
2. 'break (intr.)/(tr.)'
3. 'burn (intr.)/(tr.)'
4. 'die/kill'
5. 'open (intr.)/(tr.)'
6. 'close (intr.)/(tr.)'
7. 'begin (intr.)/(tr.)'
8. 'learn/teach'
9. 'gather (intr.)/(tr.)'
10. 'spread (intr.)/(tr.)'
11. 'sink (intr.)/(tr.)'
12. 'change (intr.)/(tr.)'
13. 'melt (intr.)/(tr.)'
14. 'be destroyed/destroy'
15. 'get lost/lose'
16. 'develop (intr.)/(tr.)'
17. 'connect (intr.)/(tr.)'
18. 'boil (intr.)/(tr.)'
19. 'rock (intr.)/(tr.)'
20. 'go out/put out'
21. 'rise/raise'
22. 'finish (intr.)/(tr.)'
23. 'turn (intr.)/(tr.)'
24. 'roll (intr.)/(tr.)'
25. 'freeze (intr.)/(tr.)'
26. 'dissolve (intr.)/(tr.)'
27. 'fill (intr.)/(tr.)'
28.'improve (intr.)/(tr.)'
29. 'dry (intr.)/(tr.)'
30. 'split (intr.)/(tr.)'
31. 'stop (intr.)/(tr.)'

• Most of these denote a change of state (plain version) or a caused change of state (causal version). Hence this alternation is known as **inchoative-causative alternation**.[1] (*inchoative* = "become, change of state"; given the new terminology, *inchoative-causal* would be more appropriate)

3. Formal types of inchoative-causative verb pairs

3.1. Causative

In the **causative** alternation (the inchoative verb is basic and the causative verb is derived) the plain and causal are similar in shape, but the causal is more complex. The causative verb may be coded by an affix (14a), by a causative auxiliary (14b), or by stem modification (14c).

(14)	a.	Georgian	*duɣ-s*	'cook (intr.)'
			a-duɣ-ebs	'cook (tr.)'
	b.	French	*fondre*	'melt (intr.)'
			faire fondre	'melt (tr.)'
	c.	Arabic	*darasa*	'learn'
			darrasa	'teach'

[1] But note that 'begin', 'finish', and 'turn' do not really denote a change of state.

3.2. Anticausative

In the **anticausative** alternation, (the causative verb is basic and the inchoative verb is derived ...) the plain and causal are similar in shape, but the plain is more complex. Again, the anticausative may be marked by an affix (15a) or by an anticausative auxiliary (15b).

(15)	a.	Russian	*katat'-sja*	'roll (intr.)'
			katat'	'roll (tr.)'
	b.	Lezgian	*xkaž ˆxun*	'rise'
			xkažun	'raise'

3.3. Non-directed alternations

3.3.1. Equipollent

"In **equipollent** alternations, both are derived from the same stem which expresses the basic situation, by means of different affixes (16a), different auxiliary verbs (16b), or different stem modifications (16c)."

(16)	a.	Japanese	*atum-aru*	'gather (intr.)'
			atum-eru	'gather (tr.)'
	b.	Hindi-Urdu	*šuruu honaa*	'begin (intr.)'
			šuruu karnaa	'begin (tr.)'
	c.	Lithuanian	*lūžti*	'break (intr.)'
			laužti	'break (tr.)'

3.3.2. Suppletive

"In **suppletive** alternations, different verb roots are used, e.g."

(17)	Russian		*goret'*	'burn (intr.)'
			žeč'	'burn (tr.)'

3.3.3. Labile/ambitransitive

Finally, in **labile (**or **ambitransitive)** alternations, the same verb is used both in the inchoative and in the causative sense, e.g.

(18)	Modern Greek	*svíno*	1. 'go out'
			2. 'extinguish'

4. Different preferences for the causatives and anticausatives in different verbs

Table 4. *Expression types by verb pairs*

		total	A	C	E	L	S	A/C
18.	'boil'	21	0.5	11.5	3	6	0	0.04
25.	'freeze'	21	2	12	3	4	0	0.17
29.	'dry'	20	3	10	4	3	0	0.30
1.	'wake up'	21	3	9	6	2	1	0.33
20.	'go out/put out'	21	3	7.5	5.5	3	2	0.41
11.	'sink'	21	4	9.5	5.5	1.5	0.5	0.42
8.	'learn/teach'	21	3.5	7.5	6	2	3	0.47
13.	'melt'	21	5	10.5	3	2.5	0	0.48
31.	'stop'	21	5.5	9	3.5	3	0	0.61
23.	'turn'	21	8	7.5	4	1.5	0	1.07
26.	'dissolve'	21	10.5	7.5	2	1	0	1.40
3.	'burn'	21	7	5	2	5	2	1.40
14.	'destroy'	20	8.5	5.5	5	1	0	1.55
27.	'fill'	21	8	5	5	3	0	1.60
22.	'finish'	21	7.5	4.5	5	4	0	1.67
7.	'begin'	19	5	3	3	8	0	1.67
10.	'spread'	21	11	6	3	1	0	1.83
24.	'roll'	21	8.5	4.5	5	3	0	1.89
16.	'develop'	21	10	5	5	1	0	2.00
15.	'get lost/lose'	21	11.5	4.5	4.5	0	0.5	2.56
21.	'rise/raise'	21	12	4.5	3.5	0	1	2.67
28.	'improve'	21	8.5	3	8	1.5	0	2.67
19.	'rock'	21	12	4	3.5	1.5	0	3.00
17.	'connect'	21	15	2.5	1.5	1	1	6.00
12.	'change'	21	11	1.5	4.5	4	0	7.33
9.	'gather'	21	15	2	3	1	0	7.50
5.	'open'	21	13	1.5	4	2.5	0	8.67
2.	'break'	21	12.5	1	4	3.5	0	12.50
6.	'close'	21	15.5	1	2.5	2	0	15.50
30.	'split'	20	11.5	0.5	5	3	0	23.00
total	636	243	164.5	128.5	69	31		

Cf. the results of Nedjalkov 1969, shown in Table 5:

Table 5. *Expression types by verb pairs* (Nedjalkov 1969)

		total	A	C	E	L	S	others	A/C
'laugh/make laugh'		60	0	54	6	0	0	0	0
'boil'		60	2	36	5	9	7	1	0.05
'burn'	60	8	19	5	14	14	0	0.42	
'break'	60	22	9	8	19	0	2	2.44	
total	240	32	118	17	42	21	3	0.27	

5. Saving iconicity?

Haspelmath (1993:87) assumed an iconicity principle (cf. also Jacobsen 1985):

> "The formally derived (or marked) words are generally also semantically derived in that they have some additional meaning element that is lacking in the formally basic (or unmarked) word. This correlation between the formal and the semantic basic-derived (or markedness) relationships has been identified as an instance of **diagrammatic iconicity**."

I assumed the following semantic relationship between inchoatives (=plains) and causals:

(32) 'break (intr.)': [*y* BECOME *BROKEN*]]
'break (tr.)': [[*x* DO-SOMETHING] CAUSE [*y* BECOME *BROKEN*]]

Counterevidence: plain/causal alternations showing **anticausative** coding (as was recognized by Mel'čuk 1967, who used such cases to argue against an iconicity principle).

Saving iconicity/markedness:

> "Iconicity in language is based [not on objective meaning but] on conceptual meaning... Events that are more likely to occur spontaneously will be associated with a conceptual stereotype (or prototype) of a spontaneous event, and this will be expressed in a structurally unmarked way." (Haspelmath 1993:106-7)

A better solution: give up both **iconicity**, and explain the facts with reference to **frequency**. See below.

6. Some universals from the literature

Universal 1: [implicational] UA#286
If a language has causative verbs derived from transitive bases, then it also has causatives derived from intransitive bases.

Figure 1.

causatives of transitives	*causatives of intransitives:* exist	do not exist
do not exist	Arabic, Blackfoot, Coos, Estonian, Gothic, **Indonesian**, Klamath, Takelma,...	Chinese, Haruai, ...
exist	Abkhaz, Aymara, Evenki, Finnish, Georgian, Hungarian, Japanese, Mongolian, Nanay, Nivkh, Quechua, Sanskrit, Turkish, **Tuvan**, Yukaghir, Zulu, ...	—

Tuvan (from Kulikov 1994):

(1) a. *ool* *doŋ-gan*
boy freeze-PST
'The boy froze.'
b. *ašak* *ool-du* *doŋ-ur-gan*
old.man boy-ACC freeze-CAUS-PST
'The old man made the boy freeze.'

(2) a. *ašak* *ool-du* *ette-en*
old.man boy-ACC hit-PST
'The old man hit the boy.'
b. *Bajyr* *ašak-ka* *ool-du* *ette-t-ken*
Bajyr old.man-DAT boy-ACC hit-CAUS-PST
'Bajyr made the old man hit the boy.'

Indonesian (Cole & Son 2004, ex. 1, 2, 5)

(3) a. *Cangkir-nya pecah.*
cup-DEF break
'The cup broke.'
b. *Tono me-mecah-kan cangkir-nya.*
Tono ACT-break-CAUS cup-3
'Tono broke the cup.'

(4) a. *Adik saya sudah mandi.*
brother 1SG already bathe
'My brother has bathed.'
b. *Dia me-mandi-kan adik saya.*
he ACT-bathe-CAUS brother I
'He bathed [= caused to bathe] my brother.'

(5) a. *Dia meng-goreng ayam untuk saya.*
he ACT-fry chicken for I
'He fried chicken for me.'
b. *Dia meng-goreng-kan saya ayam.*
he ACT-fry-CAUS I chicken
'*He made me fry the chicken.' (OK: 'He fried me chicken.')

Universal 2: [implicational]
If a language has synthetic causal verbs corresponding to agentive ("unergative") plain verbs, it also has synthetic causal verbs corresponding to patientive ("unaccusative") non-causatives.

'O'odham (Hale 2000:157-8)

(6) a. *hu/uñ* 'descend' *hu/uñ-id* 'lower'
b. *cesaj* 'rise' *cesaj-id* 'raise'
c. *heum* 'get cold' *heum-cud* 'make cold'

(7) a. *ñe'ë* 'sing' *ñe'i-cud* '*make sb. sing' ('sing for sb.)'
b. *cikpan* 'work' *cikpañ-id* '*make sb. work' ('work for sb.')
c. *gikuj* 'whistle' *gikuj-id* '*make sb. whistle' ('whistle for sb.')

Figure 2.

causatives of agentives	*causatives of patientives:* exist	do not exist
do not exist	'O'odham, Navajo, Slave, ...	Chinese, Haruai, ...
exist	Indonesian, Japanese, ...	—

Shibatani (2001:7) and Lehmann (2005:9): *implicational scale*

inactive intransitives > active intransitives > transitives

Lehmann (2005:9): "If a strategy forms causative constructions from bases at some point of [this scale], then it forms causative constructions from bases left to that point of [the scale]."

However, some languages have different markers for intransitive-base causatives and transitive-base causatives (e.g. Guaraní *mbo-* vs. *-uka*, Velázquez-Castillo 2001), or for patientive-base causatives and agentive-base causatives (e.g. Mapudungun *-ïm* vs. *-el*, Golluscio 2007).

One could also easily imagine languages with ambitransitives for patientives, but causative affixes for agentives (English-Prime: *break* (intr./tr.), *melt* (intr./tr.), but *talk/talk-y, swim/swimm-y, etc.*)

Thus, Universal 2 seems more appropriate.

Universal 3:
In the class of verbs that occur in a plain/causal alternation, 'freeze'-type ("**automatic**") verb meanings tend to be expressed as *simple/causative* verb pairs, whereas 'break'-type ("**costly**") verb meanings tend to be expressed as *anticausative/simple* verb pairs.

(Haspelmath 1993:104, cf. also Croft 1990)

examples:

(8)		a. Indonesian	b. Japanese	c. Swahili	d. Arabic
'freeze'	(intr.)	*mem-beku*	*kooru*	*ganda*	***ta**-jammada*
	(tr.)	*mem-beku-**kan***	*koor-**aseru***	*gand-**isha***	*jammada*
'break'	(intr.)	*patah*	*war-**eru***	*vunj-**ika***	***in**-kasara*
	(tr.)	*me-matah-**kan***	*waru*	*vunja*	*kasara*

Figure 3.

costly verb meanings ('break') \ *automatic verb meanings ('freeze')*	simple/causative	anticausative/simple
anticausative/simple	Finnish, Hebrew, Japanese, Swahili, Turkish, ...	Arabic, ...
simple/causative	Indonesian, ...	—

"**Automatic**" verb meanings show a much greater likelihood of causative encoding, whereas "**costly**" verb meanings show a much geater likelihood of anticausative encoding:

To simplify the presentation, below I will only look at 'freeze' and 'break'.

Universal 4:
4a. If a language that has causatives of transitives has several causatives of different length, then the longer affixes tend to be used with transitive bases, and the shorter affixes tend to be used with intransitive bases.

(Nedjalkov & Sil'nickij 1969:27)

4b. If a language that has causatives of unergatives has several causatives of different length, then the longer affixes tend to be used with unergative bases, and the shorter affixes tend to be used with unaccusative bases.

Figure 4.	CAUSATIVES OF INTRANSITIVES	CAUSATIVES OF TRANSITIVES
Georgian	*a-X-eb-:* ***a**-duγ-**eb**-s* 'boils (tr.)'	*a-X-ineb-:* ***a**-c'er-**ineb**-s* 'makes write'
Malayalam	*-CC*: *muruk-/murukk-* 'be tight/tighten'	*-(pp)ikk*: *koll-ikk-* 'make kill', *tiirr-ikk-* 'make feed'
Guaraní	*m(b)o-: mo-ngakua* 'make big'	*mo-poti-uka-* 'make s.o. clean s.th.'

Hale & Keyser (1987:25)
"In Athapaskan languages, for example, the [plain/causal] alternation is marked in the simplest manner, by choice of the so-called 'classifier'..., while the transitivization of unergative verbs like 'walk' and 'run' involves not only this classifier element but special causative prefix morphology as well."

7. Possible explanations of the universals

Universal 1:
If a language has causative verbs derived from transitive bases, then it also has causatives derived from intransitive bases.

An explanation for this universal is found in Comrie (1975:11):

– Assume the Syntactic Functions Scale ("Case Hierarchy") of Keenan & Comrie 1977 as part of universal grammar:
Subject – DO – IO – Obl (– Gen – OComp)

– Assume that the Causee is underlyingly a Subject, but must be demoted in causatives; it takes the highest available position on the Scale.

– Assume that the demotion can be limited by languages, so that it is allowed "only down to a certain level on the Scale, but no further".
Songhay, Basque: allow demotion to IO, but no further
Indonesian etc.: allows demotion to DO, but no further

Thus, Comrie has to make strong assumptions about universal constraints (which presumably derive from Universal Grammar). The explanation provided below can dispense with all these assumptions.

(Sometimes language-particular accounts of the restricted productivity of causatives are given; e.g. Alalou & Farrell 1993 for Middle Atlas Berber, Cole & Son 2004 for Indonesian. Such accounts could be correct, but the universal preference and its explanation reduce the motivation for them.)

Universal 2: [implicational]
If a language has synthetic causal verbs corresponding to agentive ("unergative") plain verbs, it also has synthetic causal verbs corresponding to patientive ("unaccusative") non-causatives.

• An elaborate purely syntactic **explanation for the preference for causative/unaccusative pairs (over causative unergative pairs)** has been offered by Hale (2000) (see also Hale & Keyser 1993, 2002).

Better explanations:

• Shibatani (2001:7-8)
"It seems that the relevant hierarchy reflects the degree of difficulty in bringing about a causative situation. When the causee is patientive, the only resistance the causer encounters...is the causee's inertia... In contrast, when the causee is agentive, the causer must appeal to the agent's volition in carrying out the caused event... Execution of an active intransitive event requires less effort than of a transitive event... The more difficult it is to bring about the caused event, the more explicitly the causative meaning must be indicated."

• Lehmann (2005:8-9):
"Keeping control of a situation gets increasingly difficult in proportion to two factors: the number of participants it contains and the degree of control of the causee. Consequently, **semantic complexity** of a causative construction increases along these two parameters: An additional higher agent is both more expected and easier to accommodate in a situation the fewer participants this already contains and the less control these already have. **Structural complexity** of causative constructions increases along the same lines: the ensuing upheaval of the base verb valency is less radical, and the resulting valency has better chances to fit into an existent base-verb model, the lesser the valency of the base and the better the argument with the highest syntactic function fits an undergoer role."

Why greater difficulty of causation should be reflected in greater explicitness of formal marking remains unclear on these accounts.

8. The Spontaneity Scale and my frequentist explanation of the universals

8.1. *The Scale*

Events can be arranged on a scale in the order of **decreasing frequency of spontaneous occurrence:**

(13) The Spontaneity Scale
monotransitive > unergative > automatic > costly > agentful

The higher an event is on the Spontaneity Scale, the more likely (and hence frequent) it is that it will occur **spontaneously** in discourse (= not described as caused by another agent or event). The lower an event is on the Scale, the more likely it is that it will be described as **caused** (= not as occurring spontaneously).

<table>
<tr><th>transitive</th><th>unergative</th><th>automatic</th><th>costly</th><th>agentful</th></tr>
<tr><td>'cut'</td><td>'play'</td><td>'freeze'</td><td>'break'</td><td>'be cut'</td></tr>
<tr><td>transitive</td><td colspan="4">intransitive</td></tr>
<tr><td colspan="2">agentive</td><td colspan="3">patientive</td></tr>
<tr><td></td><td>unergative</td><td colspan="3">unaccusative</td></tr>
</table>

Figure 5: ***The seven positions on the Spontaneity Scale and how they are related to the concepts used earlier***

That the favored status of causatives from intransitive bases has to do with **frequency of use** is hinted at in Nedjalkov & Sil'nickij (1969:26):

> "В этой же связи следует отметить гораздо бóльшую частотность ситуаций, отображаемых V^{j} от V^{in} (типа 'сжечь'), чем ситуаций, отображаемых V^{j} от V^{tr} (типа 'велеть сжечь')."
>
> ["Note in this connection the much higher frequency of situations representing causatives from intransitives (like 'burn (something)') than situations representing causatives from transitives (like 'make (someone) burn (something)')"]

Higher frequency of occurrence generally results in:
- (i) greater chance of **synthetic expression**
- (ii) greater chance of **shorter expression**
- (iii) greater chance of **zero expression**

8.2. *Synthetic expression*

The events higher on the Scale show a lower proportion of caused occurrences**, so they are *less likely to be expressed synthetically*:**

Universal 8: [implicational]
If a language has any synthetic causal verb, it also has a synthetic causal corresponding to all plain verbs that are lower on the Spontaneity Scale.

(transitive plains are the least likely to have causal counterparts)

N = non-derived
C = synthetic causative (vs. basic plain)
... = only periphrastic causative
A = anticausative (A) = expressed by anticausative if at all

examples of languages with different cut-off points: **Table 2**

	transitive ('cut')	**unergative** ('laugh')	**automatic** ('freeze')	**costly** ('break')	**agentful** ('be cut')
lg-1	...	...	...	...	...
lg-2	...	...	...	...	(A)
Romanian	...	...	...	N	(A)
English	...	...	N	N	(A)
Arabic	...	...	A	A	(A)
Indonesian	...	C	C	C	(A)
Japanese	C	C	C	A	(A)

>> This universal (complemented with Universal 13 below) subsumes Universals 1-2 above special cases.

8.3. *Shorter expression*

The events higher on the scale show a lower proportion of caused occurrences**, so derived causals tend to be *expressed in a longer way*:**

Universal 9:
The higher the base of a derived causal is on the Spontaneity Scale, the longer is the causative marker.

examples of languages with different cut-off points: **Table 3**

	transitive ('cut')	**unergative** ('laugh')	**automatic** ('freeze')	**costly** ('break')
?	(C-lng)	(C-lng)	C-lng	C-sh
Navajo	(C-lng?)	C-lng	C-sh	C-sh
Musqueam	C-lng	C-lng	C-sh	C-sh
Georgian	C-lng	C-sh	C-sh	C-sh

(14) Musqueam Halkomelem (Suttles 2004:234-7), *-t* vs. *-stəx*^{w}

unaccusative	*q*^{w}*ə́s*	'go into the water'	*q*^{w}*sə́-t*	'put it into the water'
	kwéyəx-əm	'move'	*kwáyx-t*	'move it'
unergative	*ʔíməx*	'walk'	*ʔíməx-stəx*^{w}	'make him walk'
	ʔə́ɬtən	'eat (intr.)'	*ʔə́ɬtən-stəx*^{w}	'feed him'
transitive	*k'*^{w}*éc*	'see'	*k'*^{w}*éc-stəx*^{w}	'show it to him'
	t'$^{\theta}$*x*^{w}*éls*	'wash'	*t'*$^{\theta}$*x*^{w}*éls- stəx*^{w}	'have him wash it'

>> This universal subsumes Universals 4a-b as special cases.

8.4. *Zero expression*

8.4.1. The events higher on the scale show a lower proportion of caused occurrences**, so derived causals are *more likely to occur*:**

Universal 10: [implicational]
If a language has any derived causals (=causatives), it also has derived causals for any base higher on the Spontaneity Scale.

examples of languages with different cut-off points: **Table 4**

	transitive ('cut')	**unergative** ('laugh')	**automatic** ('freeze')	**costly** ('break')	**agentful** ('be cut')
lg-3	A	A	A	A	(A)
lg-4	N	N	N	N	(A)
lg-5	deriv-C	A	A	A	(A)
lg-6	deriv-...	N	N	N	(A)
Arabic	deriv-...	deriv-...	A	A	(A)
English	deriv-...	deriv-...	N	N	(A)
Japanese	deriv-C	deriv-C	deriv-C	A	(A)
Indonesian	deriv-...	deriv-C	deriv-C	deriv-C	(A)
lg-7	deriv-...	deriv-C	deriv-C	deriv-C	deriv-C

8.4.2. Conversely, the events lower on the scale show a higher proportion of caused occurrences, **so derived plains are *more likely to occur*:**

Universal 11: [implicational]
If a language has any derived plains (=anticausatives), it also has derived plains for any base lower on the Spontaneity Scale.

examples of languages with different cut-off points: **Table 5**

	transitive ('cut')	**unergative** ('laugh')	**automatic** ('freeze')	**costly** ('break')	**agentful** ('be cut')
lg-3	deriv-A	deriv-A	deriv-A	deriv-A	(deriv-A)
lg-5	C	deriv-A	deriv-A	deriv-A	(deriv-A)
Arabic	...	...	deriv-A	deriv-A	(deriv-A)
Japanese	C	C	C	deriv-A	(deriv-A)
English	...	...	N	N	(deriv-A)
Indonesian	...	C	C	C	(deriv-A)
lg-7	...	C	C	C	C

>> Together Universals 10 and 11 subsume Universal 3 as a special case.

8.5. ***Cut-off points***

In addition, there are a number of **unrestricted (i.e. non-implicational) universals whose general direction is predicted, though their precise cutoff point do not follow directly from the general effects of frequency**:

Universal 12: [cut-off point for universal 8]
All languages have synthetic causals for costly plains and other plains lower on the Spontaneity Scale.

(Because beyond this point, the proportion of caused occurrences is so high that periphrastic causatives are too unlikely.)

This excludes the logically possible types "lg-1" and "lg-2": **Table 6**

	transitive ('cut')	**unergative** ('laugh')	**automatic** ('freeze')	**costly** ('break')	**agentful** ('be cut')
lg-1	...	...	...	...	...
lg-2	...	...	...	...	(A)
Romanian	...	...	...	N	(A)
English	...	...	N	N	(A)
Arabic	...	...	A	A	(A)
Indonesian	...	C	C	C	(A)

Lg-1 and lg-2 would be languages that have only periphrastic expressions for 'break' or even 'cut', e.g. 'break' is expressed as 'make break', or 'cut' as 'make undergo-a-cutting-process'.

Universal 13: [cut-off point for universal 10]
No language has non-derived causals for unergatives or other plains higher on the Spontaneity Scale.

(Because beyond this point, the proportion of caused occurrences is so low that non-derived causals are too unlikely.)

This excludes the logically possible types "lg-3"-"lg-6": **Table 7**

	transitive ('cut')	**unergative** ('laugh')	**automatic** ('freeze')	**costly** ('break')	**agentful** ('be cut')
lg-3	A	A	A	A	(A)
lg-4	N	N	N	N	(A)
lg-5	deriv-...	A	A	A	(A)
lg-6	deriv-...	N	N	N	(A)
Arabic	deriv-...	deriv-...	A	A	(A)
English	deriv-...	deriv-...	N	N	(A)
Turkish	deriv-C	deriv-C	deriv-C	A	(A)
Indonesian	deriv-...	deriv-C	deriv-C	deriv-C	(A)

These would be languages that either have only ambitransitive verbs for 'laugh/make laugh' or even 'cut/make cut' (e.g. 'I made her laugh' would be expressed by 'I laughed her'; 'I made her cut the bread' would be expressed by 'I cut her the bread').

Rare exception: English (Levin & Rappaport Hovav 1995:111)

(24) a. *The soldiers marched to their tents.*
b. *The general marched the soldiers to their tents.*

(25) a. *The horse jumped over the fence.*
b. *The rider jumped the horse over the fence.*

This is possible with manner of motion verbs in English, as well as with a few others (*The baby burped/The nurse burped the baby; The flashlight shone/We shone the flashlight*). It seems to be very rare cross-linguistically.

Or they have anticausatives for the plain verb: 'laugh' would be expressed as 'undergo laughing (tr.)', and 'cut bread' would be expressed as 'make onself cut bread'.

Rare exception:
In Macedonian, 'laugh' is *smee se*, derived from *smee* 'make laugh' (Nedjalkov 1969)

Universal 14: [cut-off point for universal 11]
No language has non-derived (or other) plain verbs for agentful processes ~~or other plains lower on the Spontaneity Scale~~.

(Because beyond this point, the proportion of caused occurrences is so high that non-derived plains are too unlikely.)

This excludes the logically possible type "lg-7": **Table 8**

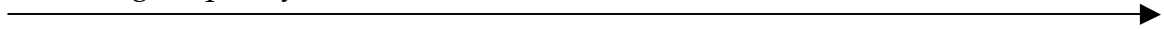
	transitive ('cut')	**unergative** ('laugh')	**automatic** ('freeze')	**costly** ('break')	**agentful** ('be cut')
Arabic	deriv-...	deriv-...	A	A	(A)
English	deriv-...	deriv-...	N	N	(A)
Turkish	deriv-C	deriv-C	deriv-C	A	(A)
Indonesian	deriv-...	deriv-C	deriv-C	deriv-C	(A)
lg-7	deriv-...	deriv-C	deriv-C	deriv-C	deriv-C

This would be a language where 'cut' is expressed as 'make be-cut'.
It seems that some languages come close to such a state of affairs (cf. Salish examples above.)

9. Evidence from usage frequency for the Spontaneity Scale

claim: the higher a verb meaning is on the Spontaneity Scale, the less frequently it will occur in a caused context, i.e.

increasing frequency:



'make sb. cut sth.' – 'make sb. talk' – 'make sth. freeze' – 'make sth. break ' – 'make sth. be cut '
(=break sth.) (=cut sth.)

Ideally to be tested on a language that uses the same causative construction for all these types, in the best case ambitransitives – but such languages don't exist

Preliminary suggestive data from English
(BNC; boldface percentages from Wright 2001:127-28)

	causal		**plain**	
agentful	*cut*	100%	*undergo cutting*	0%
costly	*break (tr.)*	**90%**	*break (intr.)*	**10%**
	open (tr.)	**80%**	*open (intr.)*	**20%**
	split (tr.)	78%	*split (intr.)*	22%
(intermediate)	*burn (tr.)*	**76%**	*burn (intr.)*	**24%**
automatic	*melt (tr.)*	**72%**	*melt (intr.)*	**28%**
	freeze (tr.)	**62%**	*freeze (intr.)*	**38%**
	dry (tr.)	**61%**	*dry (intr.)*	**39%**
	sink (tr.)	58%	*sink (intr.)*	42%
agentive	*make laugh*	20.8%	*laugh*	...
intransitive	*make cry*	6.0%	*cry*	
	make jump	5.6%	*jump*	
	make vomit	2.6%	*vomit*	
	make dance	1.8%	*dance*	
	make weep	1.1%	*weep*	
	make sing	0.4%	*sing*	
	make wait	0.4%	*wait*	
transitive	*make throw*	0.13%	*throw*	
	make buy	0.11%	*buy*	
	make accept	0.10%	*accept*	
	make kill	0.05%	*kill*	
	make avoid	0.05%	*avoid*	
	make hit	0.03%	*hit*	
	make build	0.01%	*build*	
	make destroy	0.00%	*destroy*	100%
	make teach	0.00%	*teach*	100%

Table 9.

References

Alalou, Ali & Patrick Farrell. 1993. "Argument structure and causativization in Tamazight Berber." *Journal of African Languages and Linguistics* 14: 155-186.

Buechel, Eugene. 1939. *A Grammar of Lakota.* Rosebud, SD: Rosebud Educational Society.

Bybee, Joan L. 1985. *Morphology: A study of the realtion between meaning and form.* Amsterdam: Benjamins [Typological Studies in Language 9]

Cole, Peter & Min-Jeong Son. 2004. "The Argument Structure of Verbs with the Suffix-*kan* in Indonesian." *Oceanic Linguistics* 43.2

Comrie, Bernard. 1975. 'Causatives and universal grammar'. *Transactions of the Philological Society* 1974: 1–32.

Comrie, Bernard. 1976. 'The syntax of causative constructions: cross-language similarities and divergences'. In Masayoshi Shibatani, ed.: *The Grammar of Causative Constructions*, 261–312. New York: Academic Press.

Comrie, Bernard. 2006. "Transitivity pairs, markedness, and diachronic stability." *Linguistics* 44.2:303-318.

Croft, William. 1990. "Possible verbs and the structure of events." In: Tsohatzidis, S.L. (ed.) 1990. *Meanings and prototypes.* London: Routledge, 48-73.

Davis, Henry. 2000. "Salish Evidence on the Causative-Inchoative Alternation." In Wolfgang U. Dressler, Oskar E. Pfeiffer, Markus Pöchtrager and John R. Rennison (eds.), *Morphological Analysis in Comparison.* Amsterdam, Philadelphia: John Benjamins, 25-60.

Dixon, R.M.W. 2000. "A typology of causatives: form, syntax and meaning." In: *Changing valency*, ed. by R.M.W. Dixon & Alexandra Y. Aikhenvald. Cambridge: Cambridge University Press, 30-83.

Geniušienė, Emma. 1987. *The typology of reflexives.* Berlin: Mouton de Gruyter [Empirical Approaches to Language Typology, 2.]

Golluscio, Lucía A. 2006+. "Morphological causatives and split intransitivity in Mapudungun." To appear in *International Journal of American Linguistics*

Guerssel, M. & Hale, K. & Laughren, M. & Levin, B. & White Eagle, J. 1985. "A cross-linguistic study of transitivity alternations". *Chicago Linguistic Society* 21, part 2: 48-62.

Haiman, John. 1983. "Iconic and economic motivation." *Language* 59: 781-819.

Hale, Ken. 2000. "A Uto-Aztecan ('O'odham) reflection of a general limit on predicate argument structure." In: Casad, Eugene H. & Willett, Thomas L. (eds.) *Uto-Aztecan: Structural, temporal and geographic perspectives: Papers in Memory of Wick R. Miller by the friends of Uto-Aztecan.* Hermosillo, Sonora: Universidad de Sonora, 155-169.

Hale, Kenneth L. and Keyser, Samuel Jay. 1987. *A view from the middle.* (MIT Workin Papers in Linguistics, 10.) Cambridge, MA: MIT.

Hale, Kenneth L. and Keyser, S.J. 1993. "On argument structure and the lexical expression of syntactic relations." In Hale, K. and S.J. Keyser, eds. *The view from Building 20: Essays in honor of Sylvain Bromberger.* Cambridge: MIT Press.

Hale, Kenneth L., and Samuel Jay Keyser. 2002. *Prolegomenon to a theory of argument structure.* Cambridge, MA: MIT Press.

Haspelmath, Martin. 1993. "More on the typology of inchoative/causative verb alternations." In: *Causatives and transitivity*, ed. by Bernard Comrie and Maria Polinsky, 87–120. Amsterdam: John Benjamins.

Haspelmath, Martin. 2002. *Understanding morphology.* London: Arnold.

Haspelmath, Martin. 2006. "Against markedness (and what to replace it with)." *Journal of Linguistics* 42.1:25-70.

Haspelmath, Martin. 2008. "Frequency versus iconicity in explaining grammatical asymmetries." *Cognitive Linguistics* 19.1: 1-33.

Hetzron, R. 1976. "On the Hungarian causative verb and its syntax." In: Shibatani, M. (ed.) *The grammar of causative constructions.* N.Y.: Academic Press, 371-98.

Jacobsen, Wesley M. 1985. "Morphosyntactic transitivity and semantic markedness". *Chicago Linguistic Society* 21, part 2: 89-104.

Johnston, Raymond Leslie. 1980. *Nakanai of New Britain: the grammar of an Oceanic language.* Pacific linguistics, Series B-70. Canberra: Dept. of Linguistics, Research School of Pacific Studies, Australian National University for Linguistic Circle of Canberra.

Kazenin, Konstantin. 1994. "On the lexical distribution of agent-preserving and object-preserving transitivity alternations." *Nordic Journal of Linguistics* 17.2:141-154.
Keenan, Edward L. & Comrie, Bernard. 1977. "Noun phrase accessibility and universal grammar." *Linguistic Inquiry* 8: 63-99.
Keyser, Samuel J.; and Roeper, Thomas. 1984. "On the middle and ergative constructions in English". *Linguistic Inquiry* 15: 381-416.
Kilian-Hatz. 1995. *Das Baka: Grundzüge einer Grammatik aus der Grammatikalisierungsperspektive.* Köln: Institut für Afrikanistik.
Koontz-Garboden, Andrew. 2005. "On the typology of state/change of state alternations." To appear in *Yearbook of Morphology* 2005.
Kulikov, Leonid. 1994. "Causative constructions in Tuvinian: towards a typology of transitivity." In: Lars Johanson (ed.) *The Mainz Meeting: Proceedings of the Seventh International Conference on Turkish Linguistics.* Wiesbaden: Harrassowitz, 258-264.
Lehmann, Christian. 2005. "Latin causativization in typological perspective." Presented at 13ème Colloque International de Linguistique Latine, Bruxelles, 4 – 8 avril, 2005. (Available from author's website)
Levin, Beth & Rappaport Hovav, Malka. 1995. *Unaccusativity*. Cambridge/MA: MIT Press.
Maran, L.R. & Clifton, J.R. 1976. "The causative mechanism in Jinghpaw." In: Shibatani, M. (ed.) *The grammar of causative constructions.* N.Y: Academic Press, 443-58.
Martin, Jack B. 2000. "Creek voice: beyond valency." In: *Changing valency*, ed. by R.M.W. Dixon & Alexandra Y. Aikhenvald. Cambridge: Cambridge University Press, 375-403.
Mayerthaler, Willi. 1981. *Morphologische Natürlichkeit.* Wiesbaden: Athenaion.
McKay, Graham R. 1996. "Body parts, possession marking and nominal classes in Ndjébbana." In: Chappell, Hilary & McGregor, William (eds.) 1996. *The grammar of inalienability*. Berlin: Mouton de Gruyter, 293-326.
Mel'čuk, Igor' A. 1967. "K ponjatiju slovoobrazovanija". *Izvestija Akademii Nauk SSSR, serija literatury i jazyka* 26.4: 352-362.
Nedjalkov, Vladimir P. 1969. "Nekotorye verojatnostnye universalii v glagol'nom slovoobrazovanii". In: Vardul', I.F. (ed.), *Jazykovye universalii i lingvističeskaja tipologija*, 106-114. Moskva: Nauka.
Nedjalkov, Vladimir P. 1990. "Das Verhältnis zwischen semantischen und formalen Oppositionen in verbaler Derivation". Ms., Institute of Linguistics, Academy of Sciences, Leningrad/St. Petersburg
Nedjalkov, Vladimir P.; and Sil'nickij, G.G. 1969. "Tipologija morfologičeskogo i leksičeskogo kauzativov". In: Xolodovič (ed.) 1969: 20-50.
Nedjalkov, Vladimir P., and Silnitsky, G.G. 1973. The typology of morphological and lexical causatives. In *Trends in Soviet theoretical linguistics*, ed. by Ferenc Kiefer, 1–32. Dordrecht: D. Reidel Publishing.
Nichols, Johanna & David A. Peterson & Jonathan Barnes. 2004. "Transitivizing and detransitivizing languages." *Linguistic Typology* 8.2: 149-211.
Rappaport Hovav, Malka, and Beth Levin. 1998. Building verb meanings. In *The projection of arguments: Lexical and compositional factors*, ed. by Miriam Butt andWilhelm Geuder, 97–134. Stanford, CA: CSLI Publications.
Saksena, Anuradha. 1982. *Topics in the analysis of causatives with an account of Hindi paradigms.* Berkeley: University of California Press [UC Publications in Linguistics 98]
Shibatani, Masayoshi. 2001. "Introduction: Some basic issues in the grammar of causation." In: Shibatani (ed.) 2001: 1-22.
Shibatani, Masayoshi (ed.) 2001. *The grammar of causation and interpersonal manipulation.* Amsterdam: Benjamins.
Suttles, Wayne. 2004. *Musqueam reference grammar.* Vancouver: U. of British Columbia Press.
Velázquez-Castillo, M. 2001. "Guaraní causative constructions." In: Shibatani 2001: 507-534.
Welmers, William E. 1973. *African language structures.* Berkeley: University of Calif. Press.
Wright, Saundra Kimberly. 2001. *Internally caused and externally caused change of state verbs.* Ph.D. dissertation, Northwestern University (Evanston, IL).
Xolodovič, Aleksandr A. (ed.). 1969. *Tipologija kauzativnyx konstrukcij: Morfologičeskij kauzativ.* Leningrad: Nauka.
Zepeda, Ofelia. 1983. *A Papago Grammar.* Tucson: University of Arizona Press.