THE ACQUISITION OF ERGATIVITY

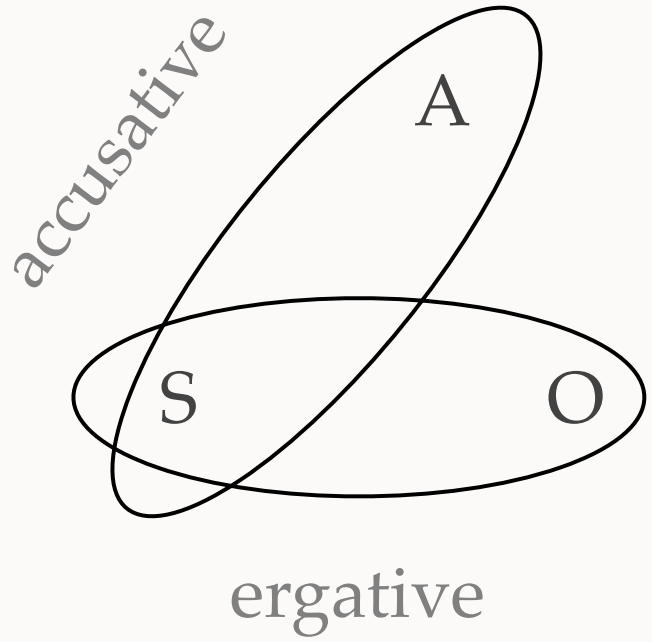
Sabine Stoll, Elena Lieven,
Max Planck Institute for Evolutionary Anthropology

Ergativity

Research questions:

- What is the role of meaning in the learning of morphology? What is the role of agent to learn about the grammatical category subject?
- Are agents in multi-party events (transitive) treated similarly to agents in single-party events (intransitive)?

Ergativity vs. Accusativity



Ergativity: Dyirbal

(1) a. *Balan* *ɖugumbil-Ø* *bani-ɲu*
NM:ABS woman-ABS come-TNS[3]
'The woman [S] is coming'

b. *Balan* *ɖugumbil-Ø* *baŋgul* *yaɽa-ŋgu* *buɽa-n*
NM:ABS woman-ABS NM:ERG *man-ERG* see-TNS
'The man [A] sees the woman [O]'

c. *Baŋgun* *ɖugumbi-ɽu* *bayi* *yaɽa-Ø* *buɽa-n*
NM:ERG woman-ERG NM:ABS man-ABS see-TNS
'The woman [A] sees the man [O]'

(Dixon 1992)

Morphological Ergativity: K'iche

(4) a. *X-at-war-ik*
TNS-2sgABS-sleep-SUFF
'You slept'

b. *X-Ø-war-ik* *ri* *achi*
TNS-3ABS-sleep-SUFF CLASS man
'The man slept'

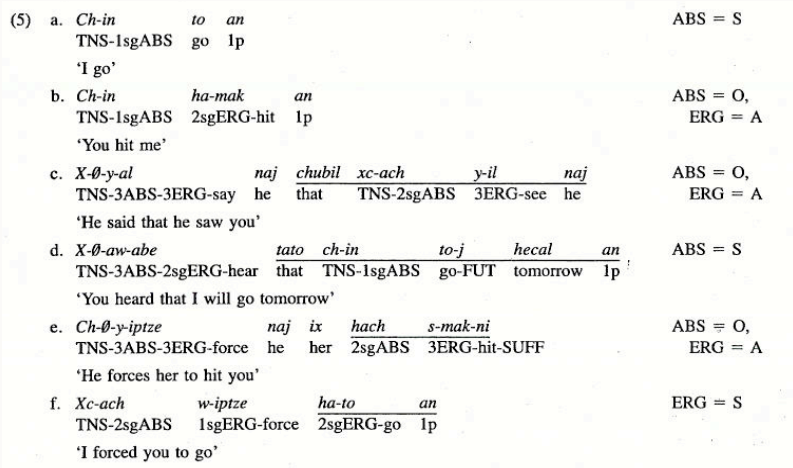
c. *K-at-u-ch'ay-o* *ri* *achi*
TNS-2sgABS-3ERG-hit-SUFF CLASS man
'The man hit you'

d. *K-Ø-a-ch'ay-o* *ri* *achi*
TNS-3ABS-2sgERG-hit-SUFF CLASS man
'You hit the man'

(Larsen 1988)

Split ergativity: Jacaltec

- Contrast between main and subordinate clauses.
- Ergative is marked in main clauses and finite subordinate clauses but not in infinite subordinate clauses.



(5) a. *Ch-in* *to* *an* — ABS = S
TNS-1sgABS go 1p
'I go'

b. *Ch-in* *ha-mak* *an* — ABS = O, ERG = A
TNS-1sgABS 2sgERG-hit 1p
'You hit me'

c. *X-Ø-y-al* *naj* *chubil* *xc-ach* *y-il* *naj* — ABS = O, ERG = A
TNS-3ABS-3ERG-say he that TNS-2sgABS 3ERG-see he
'He said that he saw you'

d. *X-Ø-aw-abe* *tato* *ch-in* *to-j* *hecal* *an* — ABS = S
TNS-3ABS-2sgERG-hear that TNS-1sgABS go-FUT tomorrow 1p
'You heard that I will go tomorrow'

e. *Ch-Ø-y-iptze* *naj* *ix* *hach* *s-mak-ni* — ABS = O, ERG = A
TNS-3ABS-3ERG-force he her 2sgABS 3ERG-hit-SUFF
'He forces her to hit you'

f. *Xc-ach* *w-iptze* *ha-to* *an* — ERG = S
TNS-2sgABS 1sgERG-force 2sgERG-go 1p
'I forced you to go'

(Craig, 1977; see Van Valin, 1985)

Split-ergativity: Hindi

- Hindi (Indo-European, mainly Nothern India).
- Transitive actions do not receive uniform morphological marking. Only in perfective contexts they are marked with the clitic *ne* (ergative case). S are typically null marked.

(5) *wo* *haar* *uThaa-**taa*** *hae.*
'He-NOM necklace-NOM lift-IPFV.SG.M. be.PRS.3SG.'
'He picks up a necklace'

(6) *us=**ne*** *haar* *uThaa-**yaa**.*
'He=ERG necklace-NOM lift-PFV.SG.M.'
'He picked up a necklace.'

(7) *wo* *baeTh-**aa**.*
'he-NOM sit-PFV.SG.M.'
'He sat (down).'

(Narasimhan 2005: 789)

Ergativity

- Different systems (split vs. non-split, kind of split) pose different challenges to the child. Different generalization processes will be at work
  - Degree to which morphology is consistently accusative or ergative.
  - Degree to which adults use the morphology.
  - Degree to which the morphology marks a productive lexical class in the language. The more members a lexical class has the more successful the generalization process.

(Pye 1990)

Ergativity

- 2 possible approaches by children:
  - 'Agentivity-bias': Children treat agents alike and rely on agent related notion of 'agentive participant'. This includes agents of transitive verbs and intransitive verbs (Brown 1973, Braine 1976, Pinker 1984).
    - Prediction: Children in their early phases treat S and A alike only later on adapting to language specific codings, i.e. children learning ergative languages would either
      - overextend the ergative marker for A to S.
      - Or only distinguish between A and O and leave S unmarked and later on extend the absolutive marking of O to S.
    - Test: data from ergative languages
  - Children adapt to the language specific pattern right from the beginning. Distributional learning is responsible for this (Pye 1990)

Ergativity in K'iche Maya

- K'iche: Ergative marking throughout persons, aspects and clause levels (non-split system)

(2)

	Ergative		Absolutive
	Prevocalic	Preconsonantal	
Singular			
1	inw-	in-	in-
2	aw-	a-	at-
3	r-	u:-	0-
Plural			
1	q-	qa-	uj-
2	iw-	i-	ix-
3	k-	ki-	e:-

(Pye 1990)

Ergativity in K'iche Maya

- Children; Al Tiya:n (2;1- 2;10), Al Cha:y (2;9 - 3;1), A Carlos (3;0 -3;7)

Table 2. Frequency of subject marking errors in K'iche'

	Al Tiya:n		Al Cha:y		A Carlos	
Session	Abs	Erg	Abs	Erg	Abs	Erg
1-3	-	-	-	-	-	-
4-6	-	-	2	1	-	-
7-9	-	-	1	-	-	5
10-12	-	-	2	-	-	1
13-15	1	-	-	-	-	1
16-18			1	1	2	1
19-21			-	-	-	-

(Pye 1990)

Ergativity in K'iche Maya

Table 3. Frequency and percentage presence in obligatory contexts of subject markers on K'iche' verbs[4]

	Al Tiya:n				Al Cha:y				A Carlos			
	Ivs		Tvs		Ivs		Tvs		Ivs		Tvs	
Session	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1-3	6	86	9	39	–	–	3	2	19	50	17	71
4-6	3	50	5	11	9	39	10	4	20	67	63	50
7-9	4	31	6	10	5	22	12	6	32	58	128	46
10-12	6	38	19	17	3	7	48	16	17	65	152	54
13-15	4	10	25	19	2	9	51	18	31	70	130	51
16-18	–	–	–	–	14	50	76	33	24	70	149	69
19-21	–	–	–	–	19	59	64	43	23	80	87	71

(Pye 1990)

Ergativity in K'iche Maya

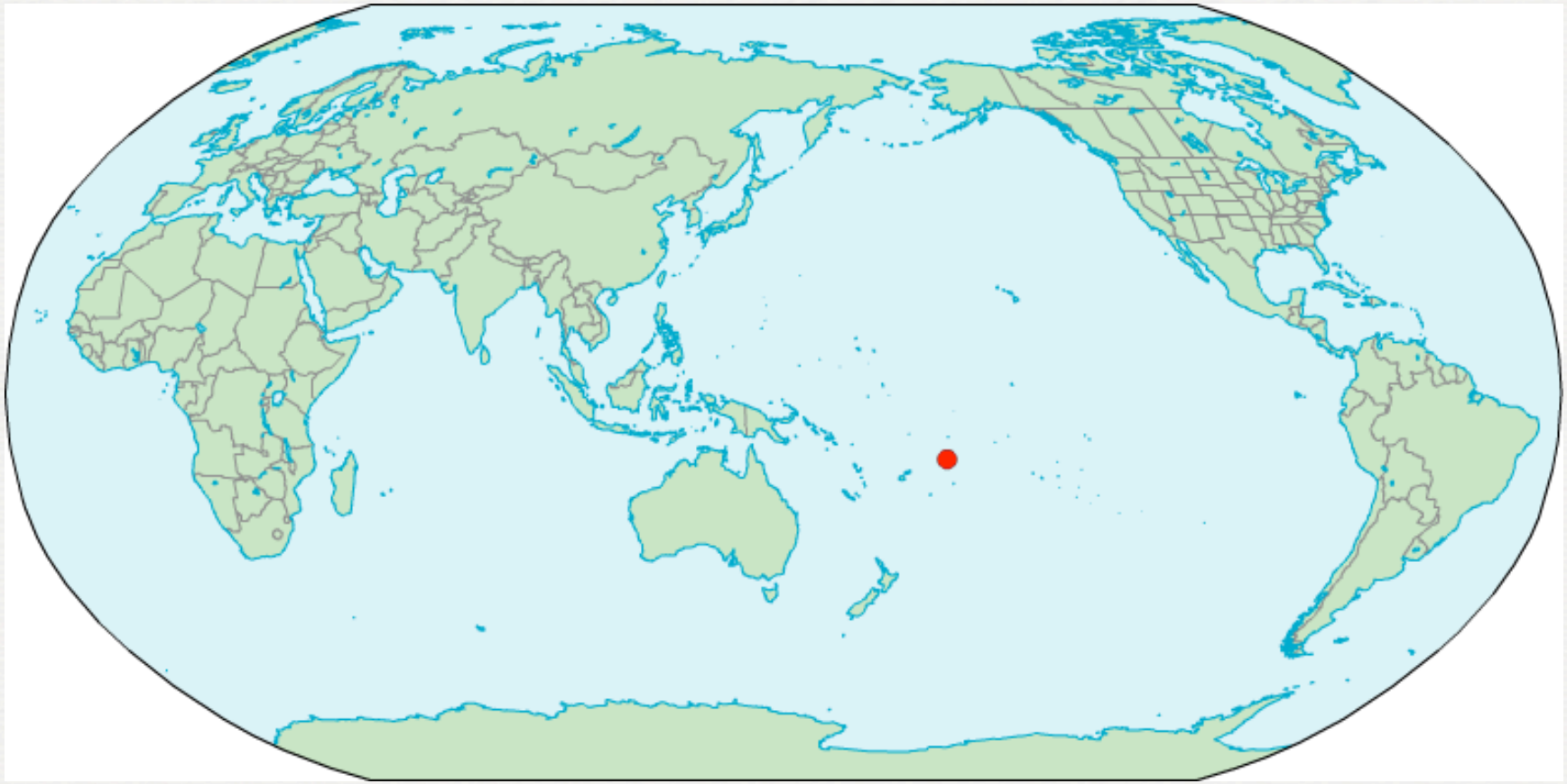
- Total overgeneralizations:
  - Session 7-9 A Carlos 3% of total person marker usage and 1% in sesssion 13-15.
  - Children ocassionally overgeneralize the ergative marker to intransitive verbs and the absolutive marker to A.

(Pye 1990)

Ergativity in Samoan (Ochs 1982)

- 1 year field work in a traditional Samoan village.
- Longitudinal study of 6 children (Video-Audio) living in different households.
- Age of the children at the beginning of the study (2;1, 2;1, 2;3, 2;10, 2;11, 3;4)
- Recordings 3 h every 5 weeks, 148 h of recording, 20 h video rest audio
- Transcription with help of family members of the child.
- 40 h of adult-adult spontaneous speech

Samoa



Samoan

- Polynesian language spoken in Western Samoa
- very hierarchically structured society
- up to age 6 month the child spends most of her time with the mother, but other women or children help as well. Child is carried by other children
- they speak quite a bit about children
- but children of about under 1 year of age are not treated as communicative partners, but the caretakers are adressed instead
- as soon as the child gets more mobile children are addressed more but mainly with imperatives and not as communication partners.

Ergativity in Samoan

- Morphologically ergative, ergative case marking
- Syntactically accusative
- Ergative marking is learned late, 3-4 year olds use it in only 5% of the contexts, younger children not at all.
- Different from the results on K'iche and Kaluli (Schieffelin, 1979), where ergative marking is acquired early (before age 3).

(Ochs 1982)

Ergativity in Samoan

- To account for the differences with Kaluli and K'iche 2 sources are considered:
  - perceptual features of Samoan ergative marking
  - sociolinguistic status of Samoan ergative marking.
- Major differences with Kaluli in usage patterns
- In Samoan ergative case marking is constrained by social identity of the speaker and degree of social distance between speaker and addressee.

(Ochs 1982)

Ergativity in Samoan

- Transitive subject is marked with the ergative (*e*) only when the transitive subject follows the verb (VAO, VOA, OVA)

(1) TRANSITIVE SENTENCE
VSO: *Na fasi e le tama Sina.*
PAST hit ERG ART boy Sina
VOS: *Na fasi Sina e le tama.*
PAST hit Sina ERG ART boy
'The boy hit Sina.'

(2) INTRANSITIVE SENTENCE
VS: *'Olo'o moe le tama.*
PRES.PROG sleep ART boy
'The boy is sleeping.'

(Ochs 1982)

Ergativity in Samoan

- 2 types of transitive verbs
  - Canonical verbs (e.g. *fasi*, 'hit', *ave* 'take') the get marked with the ergative particle.
  - Middle verbs, verbs of perception, emotion cognition, desire etc. (z.B. *ita* 'hate', *alofa* 'love') no ergative particle.

Ergativity in Samoan

SITUATION	AGENTS EXPRESSED IN TOTAL CORPUS	POSTVERBAL AGENTS EXPRESSED IN TOTAL CORPUS	ERGATIVE CASE-MARKERS IN TOTAL CORPUS	ERGATIVE CASE-MARKERS IN UTTERANCES WITH POSTVERBAL AGENTS
I: Informal, women to female adults and children, family members (150 total clauses)	40.0% (60)	20.0% (30)	4.0% (6)	20.0% (6)
II: Informal, men to female/ male adults and children, family members (60 total clauses)	40.0% (24)	30.0% (18)	5.0% (3)	16.6% (3)
III: Informal, women to female adults, non-family members (120 total clauses)	52.5% (63)	29.2% (35)	13.3% (16)	45.7% (16)
IV: Informal, men to male adults, non-family members (50 total clauses)	40.0% (20)	32.0% (16)	24.0% (12)	75.0% (12)
V: Formal, titled men in discussion portion of village council meetings (56 total clauses)	55.3% (31)	39.3% (22)	28.6% (16)	72.3% (16)

TABLE 1.

(Ochs 1982)

Ergativity in Samoan

- Social distance between speaker and audience is an important factor for the use of ergative.
  - The greater the social distance the more likely the ergative marker will be used.
- Sex of speaker:
  - Both men and women use the ergative rarely in in intimate settings,
  - Men use the marker much more than women in non-intimate settings.

(Ochs 1982)

Ergativity in Samoan

- Results child speech:
  - Children express agents very rarely
  - Children between 2-4 years rarely use the ergative marker.
- Potential reasons:
  - perceptual characteristics of ergative case-marking
  - frequency and context of occurrence.

(Ochs 1982)

Ergativity in Samoan

FEATURE	SAMOAN	KALULI
postposed	–	+
syllabic	+	+
stressed	–	?
obligatory	–	–
tied to noun	–	+
rationally ordered	n.a.	n.a.
consistent with word-order pattern	+	+
non-synthetic	n.a.	n.a.
only grammatical functions	–	–
regular	+	–
applied to all pro-forms	–	–
no homonymous case-markers	+	–

(Ochs 1982)

Ergativity in Samoan

- Kaluli case marking even though learned earlier seems to be less salient (fewer features of perceptual saliency than Samoan).
- Both Kaluli and Samoan do have non-obligatory marking, but in Samoan it is situationally restricted, not so in Kaluli (if the transitive subject appears before the verb ergative marking must be used).

(Ochs 1982)

Ergativity in Samoan

CHILD/AGE AT ONSET OF STUDY	AGENTS EXPRESSED IN TOTAL CORPUS	POSTVERBAL AGENTS EXPRESSED IN TOTAL CORPUS	ERGATIVE CASE-MARKERS IN TOTAL CORPUS	ERGATIVE CASE-MARKERS IN UTTERANCES WITH POSTVERBAL AGENTS
Matu'u/2;1 (76 total clauses)	22.4% (17)	14.5% (11)	0.0% (0)	0.0% (0)
Iakopo/2;1 (50 total clauses)	30.0% (15)	12.0% (6)	0.0% (0)	0.0% (0)
Pesio/2;3 (113 total clauses)	13.3% (15)	4.4% (5)	0.0% (0)	0.0% (0)
Naomi/2;10 (109 total clauses)	15.6% (17)	10.1% (11)	0.9% (1)*	9.1% (1)*
Niulala/2;11 (148 total clauses)	21.6% (32)	13.5% (20)	0.7% (1)	5.0% (1)
Maselino/3;4 (86 total clauses)	36.0% (31)	33.7% (29)	4.6% (4)	13.8% (4)

TABLE 2. (The item marked with an asterisk is a partial repetition of adult speech.)

Ochs, 1982:656

Example: use of ergative by children and consequences

[Dinner conversation: child O wants the biggest piece of banana:]

O *leai, leai, e lē:, e lē: le} kipi::*
no no is not is not cut

'No, no, that's not the one that's cut.'

[Mother Savali (S.) switches the piece of banana with a bigger one from the plate and gives it to O. O's elder sister R comments:]

R: *maga'o ā e faka'akelē aga in*
want EMPH TAM make-big 3s PRO

'(She) wants hers to be the biggest.'

[O coughs; S responds, laughing]

S: *'ae ua uma aga ave e Kilisimasi le mea k(h)e(h)l(h)ē!*
but PST finish COMP take ERG K. ART thing big

'But Kilisimasi has already taken the big one.'

[Kilisimasi, O's elder brother, responds:]

K: *'o la'u mea lea ua au=mai e Savali.*
PRED 1sPOSS thing DEM PST give=1sP ERG S.

'That's the one that Savali gave me.'

[Mother abruptly turns to K:]

S: *'ua uma na 'ē 'ai?*
PST finish COMP you eat

'Have you finished eating?'

[K nods.]

S: *alu ese lā'ia ma igā.*
go away then from DEM.LOC

'Then get away from here.'

(Duranti, 1994)

Ergativity in Samoan

- Intransitive utterances (VS order)

	SESSION I	SESSION III	SESSION V	SESSION VII	AVERAGE
Matu'u	100.0% (9)	70.0% (7)	84.6% (21)	71.4% (20)	81.5%
Iakopo	100.0% (1)	85.7% (6)	85.7% (18)	85.2% (23)	89.2%
Pesio	96.1% (25)	80.0% (4)	78.9% (30)	86.5% (45)	85.4%
Naomi	100.0% (16)	70.6% (12)	91.3% (22)	75.8% (25)	84.4%
Niulala	90.9% (30)	77.3% (34)	88.9% (64)	65.8% (25)	80.7%

TABLE 4.

(Ochs 1982)

Ergativity in Samoan

- transitive utterances

	TOTAL	VOA	AVO	OAV	AOV	VAO	OVA	O[VA]
Matu'u	43	53.5% (23)	32.6% (14)	–	–	7.0% (3)	2.3% (1)	4.6% (2)
Iakopo	19	52.6% (10)	42.1% (8)	5.3% (1)	–	–	–	–
Pesio	23	69.5% (16)	17.4% (4)	–	4.4% (1)	8.7% (2)	–	–
Naomi	26	65.4% (17)	23.1% (6)	–	–	11.5% (3)	–	–
Niulala	40	32.5% (13)	32.5% (13)	–	–	22.5% (9)	10.0% (4)	2.5% (1)
TOTALS	151	52.3% (79)	29.8% (45)	.7% (1)	.7% (1)	11.3% (17)	3.3% (5)	1.9% (3)

TABLE 5.

(Ochs 1982)

Ergativity in Samoan

Matu'u	86.0% (37)
Iakopo	94.7% (18)
Pesio	91.3% (20)
Naomi	88.5% (23)
Niulala	65.0% (26)

TABLE 11.

(Ochs 1982)

Ergativity in Samoan

SITUATION	TOTAL	VAO	VOA	AVO	OVA
I	23	21.7% (5)	34.8% (8)	34.7% (8)	8.7% (2)
II	15	26.7% (4)	66.7% (10)	–	6.6% (1)
III	14	28.6% (4)	35.7% (5)	28.6% (4)	7.1% (1)
IV	6	66.7% (4)	16.7% (1)	16.6% (1)	–
V	17	52.9% (9)	17.6% (3)	11.8% (2)	17.6% (3)
TOTALS	75	34.7% (26)	36.0% (27)	20.0% (15)	9.3% (7)

TABLE 12. Word-order preferences: canonical transitives with three full constituents. (Situations are defined as in Table 1, above.)

	TOTAL UTTERANCES	VAO	VOA	AVO	OVA
Men	38	44.7% (17)	36.8% (14)	7.9% (3)	10.5% (4)
Women	37	24.3% (9)	35.1% (13)	32.4% (12)	8.1% (3)

TABLE 13. Word-order preferences and sex of speaker.

	TOTAL UTTERANCES	VAO	VOA	AVO	OVA
SPEAKING IN	38	23.7% (9)	47.4% (18)	21.0% (8)	7.9% (3)
SPEAKING OUT	37	45.9% (17)	24.3% (9)	18.9% (7)	10.8% (4)*

TABLE 14. Word-order preferences: speech to family vs. non-family. (The asterisk marks a rough figure.)

(Ochs 1982)

Ergativity in Hindi

- Split-ergativity, only A in perfective contexts receive ergative marking (clitic *ne*)

(5) *wo* *haar* *uThaa-**taa*** *hae.*
'He-NOM necklace-NOM lift-IPFV.SG.M. be.PRS.3SG.'
'He picks up a necklace'

(6) *us=**ne*** *haar* *uThaa-**yaa**.*
'He=ERG necklace-NOM lift-PFV.SG.M.'
'He picked up a necklace.'

(7) *wo* *baeTh-**aa**.*
'he-NOM sit-PFV.SG.M.'
'He sat (down).'

(Narasimhan, 2005)

Ergativity in Hindi

- Longitudinal corpus of 3 children (1;7-3;9)
- Urban middle-class families in New Delhi.
- Audio-and video-taped on a weekly basis for 1 year in various contexts with various caretakers.
- 2 children were siblings and they were recorded together.

(Narasimhan, 2005)

Ergativity in Hindi

- Results:
  - All children produced the ergative marker only in obligatory contexts, no overextensions only errors of omission

TABLE 1. *Summary information for Hindi children*

Child	Gender	Age at onset of taping	Age Range selected for study	No. of Sessions selected for study (total = 24)	No. of utterances containing a verb in selected sessions (total = 4362)	Obligatory contexts for uses of *ne*
Aar	male	2;11	3;4–3;9	5	940	15
Man	female	2;1	2;2–2;8	10	2391	23
Ish	female	1;3	1;7–2;3	9	1031	51

(Narasimhan, 2005)

Ergativity in Hindi

TABLE 2. *Case-marking of A role arguments in the three children*

Child	Age	Obligatory contexts	No marking on A arguments	*ne* marking on A arguments (% realization of *ne* on A arguments in perfective contexts)	Ungrammatical uses of *ne* (A args in non-perf. contexts, S args, or O args.)
Aar	3;4	1	1	0 (0%)	0
	3;5	3	0	3 (100%)	0
	3;6	4	1	3 (75%)	0
	3;7	2	0	2 (100%)	0
	3;9	5	0	5 (100%)	0
	Total	15	2	13 (87%)	0
Man	2;2	1	1	0 (0%)	0
	2;3	4	3	1 (25%)	0
	2;4	5	5	0 (0%)	0
	2;6	5	1	4 (80%)	0
	2;7	7	1	6 (85·7%)	0
	2;8	1	0	1 (100%)	0
	Total	23	11	12 (52%)	0
Ish	1;7	1	0	1 (100%)	0
	1;9	2	1	1 (50%)	0
	1;10	12	3	9 (75%)	0
	1;11	5	2	3 (60%)	0
	2;1	7	0	7 (100%)	0
	2;3	24	0	24 (100%)	0
	Total	51	6	45 (88·2%)	0

(Narasimhan, 2005)

Ergativity in Hindi

- Verbs used in different contexts

TABLE 7. *Verbs with null and* ne *marking on A arguments in 'Ish'* (1;7–2;3 years)

Verb	*ne* marking on A args. (perfective contexts)	No marking on A args. (non-perfective contexts)
banaa 'make'	*AATii* 'aunty'	*aap* 'you (polite)'
	bhaiyyaa 'brother'	*bhaiyyaa* 'brother'
	mAE '*I*'	*mAE* '*I*'
dekh 'see'	*mAE* '*I*'	*ye* 'this/it/he/she'
khaa 'eat'	*mAE* '*I*'	*mAE* '*I*'
	ham 'we'	*aap* '*you* (polite)'
	mAA 'mother'	*ye* 'this/it/he/she'
	bhaiyyaa 'brother'	
	baabuujii 'father'	
maar 'hit'	*mAE* '*I*'	*mAE* '*I*'
	meDaam 'madam'	*maccilii* 'fish'
	baccaa 'child'	*aap* 'you (polite)'
nikaal 'remove'	*bhaiyyaa* 'brother'	*candaa maamaa* 'moon'
pehen 'wear'	*mAE* '*I*'	*mAE* '*I*'
kar 'do'	*meDaam* 'madam'	*ye* 'this/it/he/she'
pakaD|'wear'	*mAE* '*I*'	*ye* 'this/it/he/she'

(Narasimhan, 2005)

Summary

- Socio-linguistic factors can have a strong influence in learning a grammatical category.
- Context-driven learning, i.e. children learn forms in specific contexts and adapt to the distributions of this context.
- The acquisition of ergative marking is highly language specific but there seems to be no evidence that children first treat agents of transitive sentences and subjects of intransitive sentences alike.
- A variety of factors such as perceptual factors, context-sensitivity, frequency etc. have to be considered for each language individually and be taken into account in comparing the 'same' categories across languages.
- Comparisons with the adults surrounding the child are crucial for any acquisition study.