

The Benefit of Doubt

Manuela Schöenberger & Stefan Evert

QITL, 4 Oct 2002

Part 2

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Data from Moira

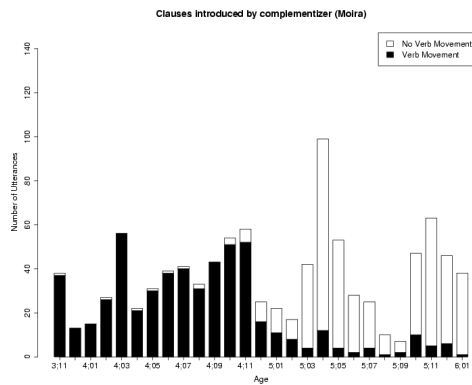
Moira	3;11	4;01	4;03	4;05	4;07	4;09	4;11	5;01	5;03	5;05	5;07	5;09	5;11	6;01
<u>mvt</u>	50	41	77	68	71	94	68	19	16	6	5	12	11	1
<u>no mvt</u>	1	1	1	2	3	3	15	20	125	75	30	42	98	37

→ χ^2 -test: $p \approx 0$ (df=13)
 (test of independence = same proportions)

 <http://www.r-project.org/>

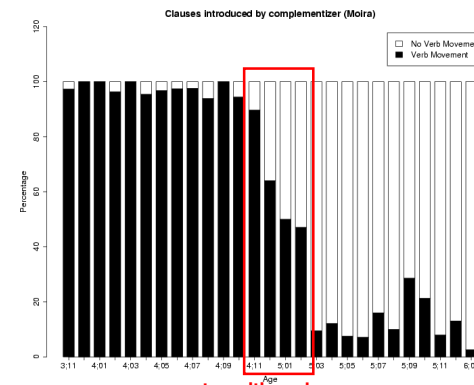
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Moira: data by month



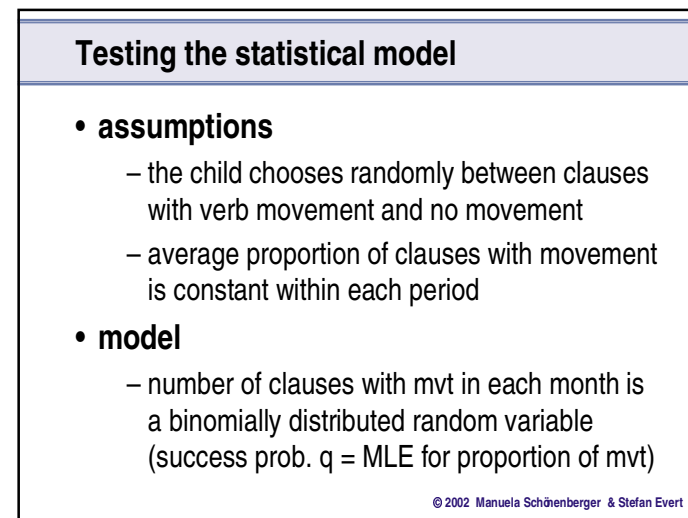
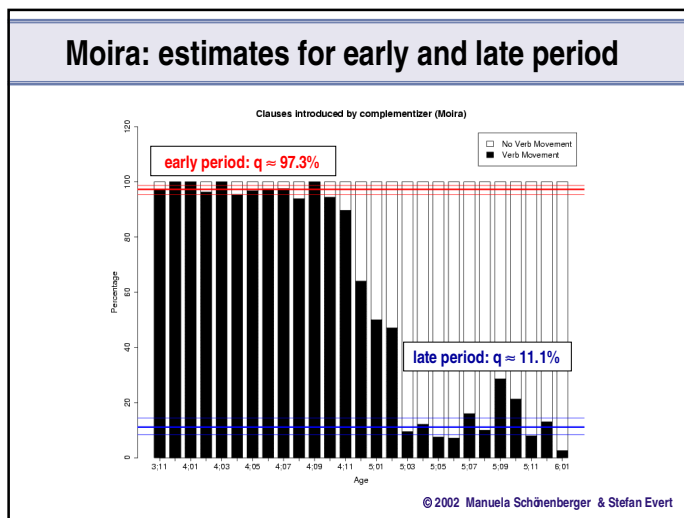
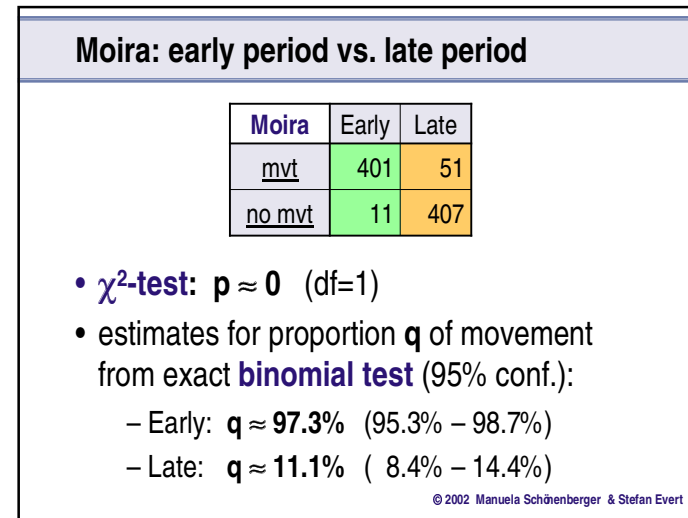
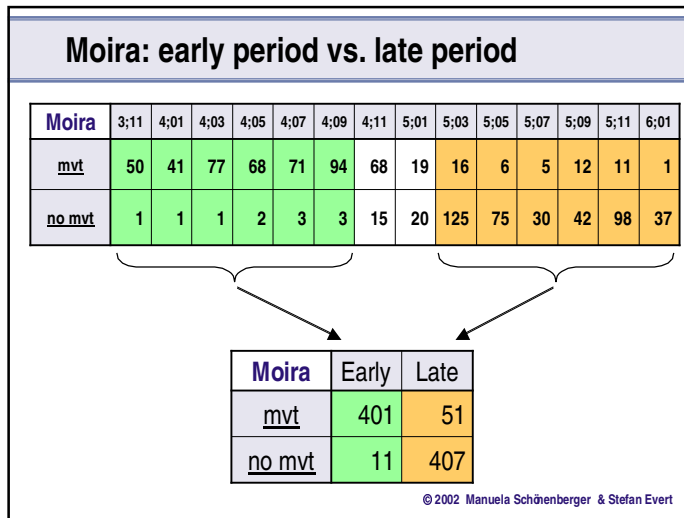
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Moira: data by month (proportions)



transition phase

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Testing the statistical model

- **test procedure**

- null hypothesis: variation within each period can be explained by chance
- equivalent to independence of rows and columns in the contingency table (by month)
- perform χ^2 test on early and late period

- **results**

- early period: $p \approx 0.696$ → acceptable
- late period: $p \approx 0.242$ → acceptable

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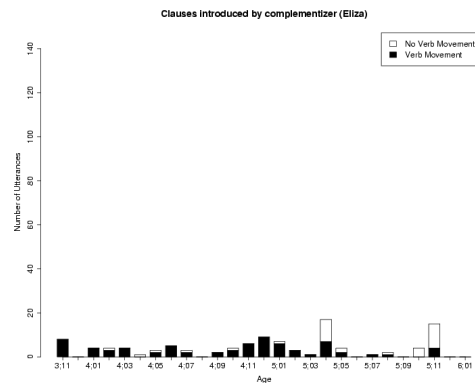
A closer look at the transition phase

Maira	4;11	5;00	5;01	5;02
<u>mvt</u>	52	16	11	8
<u>no mvt</u>	6	9	11	9

- compare each month to conf. intervals for proportion q of mvt in early and late period
- **binomial test** reports significant difference for each month (4;11 might be early period) → **transition phase**

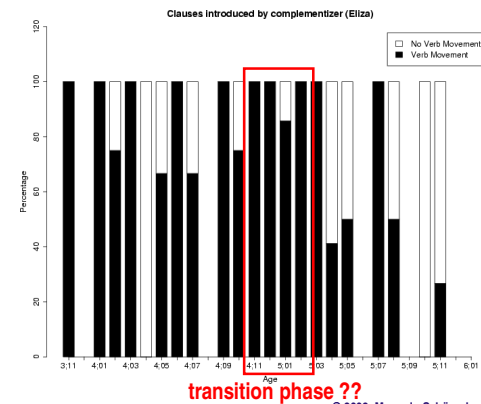
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Eliza: data by month

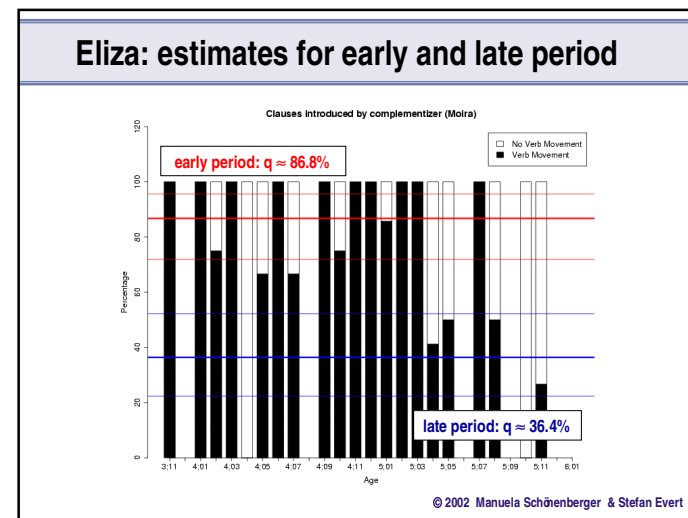
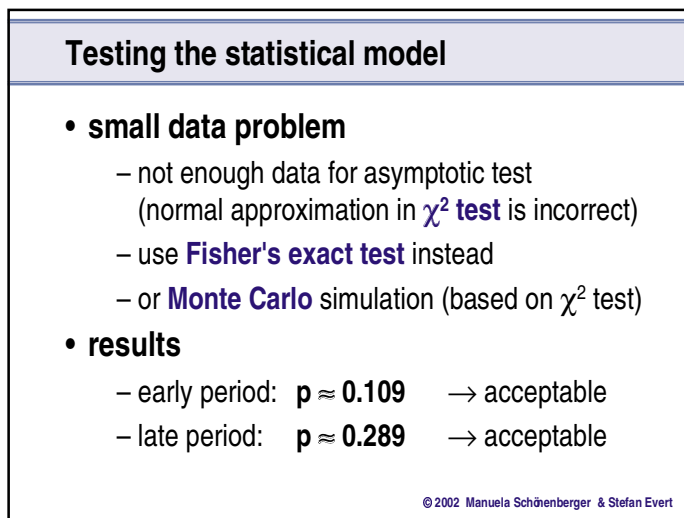
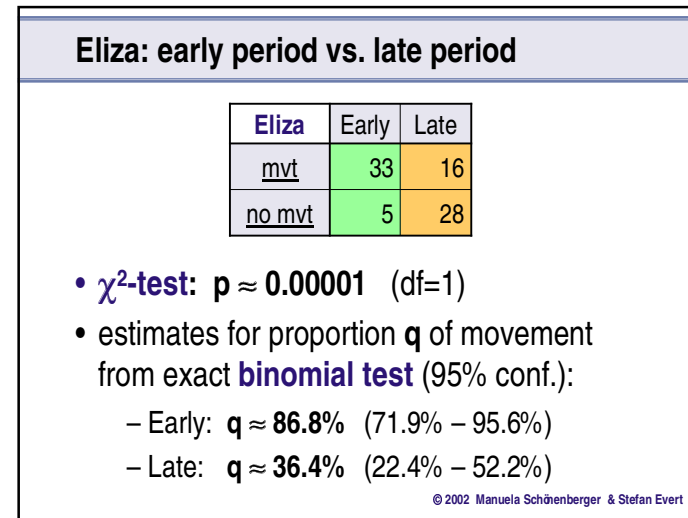
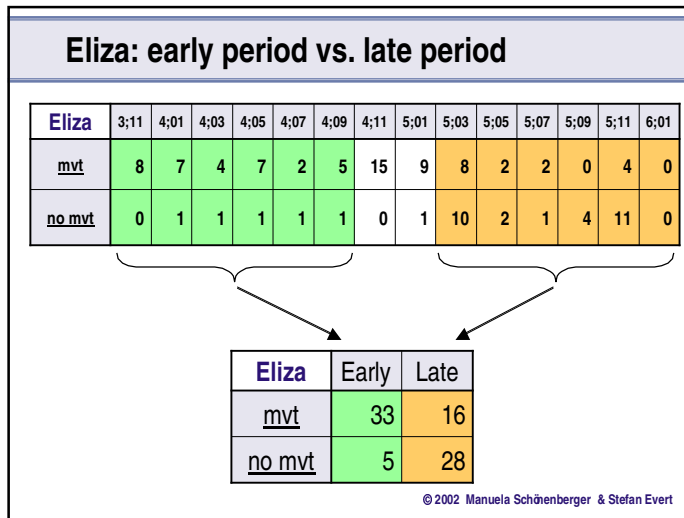


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Eliza: data by month (proportions)



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A closer look at the transition phase

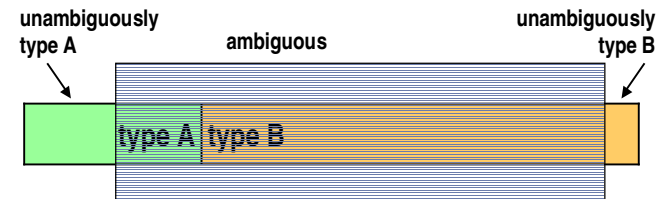
Eliza	4;11	5;00	5;01	5;02
<u>mvt</u>	6	9	6	3
<u>no mvt</u>	0	0	1	0

- **binomial test:**
all four months could belong to early period
- 5;02 might also belong to late period
(even though there is always verb mvt!)

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Ambiguous data

- so far, we have ignored ambiguous data
- this may have distorted the results!



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Child data: non-target consistent

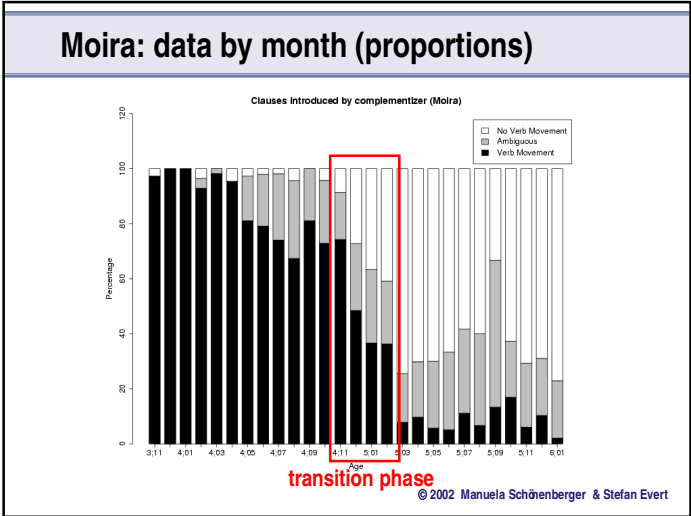
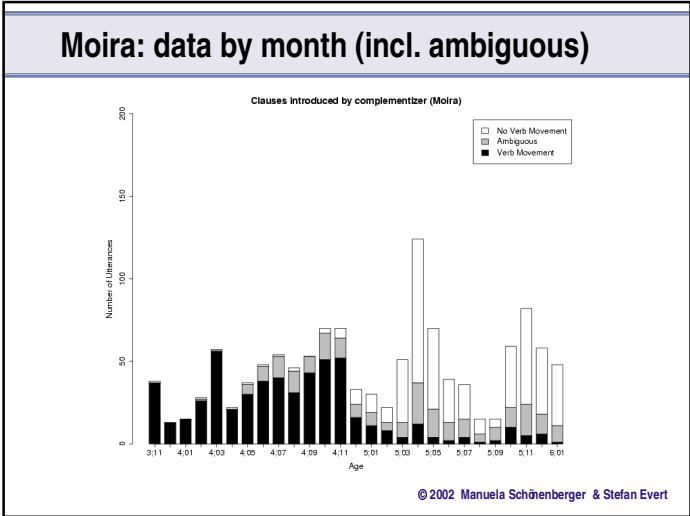
1. % wenn **die** fahret so schnell (E:5;02)
when these drive so fast
2. a. % dass **das** isch de Uhu (E:5;01)
that this is the owl
b. % dass **er** isch es eis (M:4;08)
that he is a one
3. a. % öb's **hät** am Salot Lüüs (M:4;02)
if there has on-the salad greenfly
b. % öb **ich** find nomel öppis (E:4;10)
if I find again something

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Child data: ambiguous

1. wenn **ich** mues lache (E:5;04)
when I must laugh
2. dass-**mer** cha t'Röschti ufsteche (M:4;11)
that-one can the rösti up-pick
3. öb **er** chämt dete z'Mittag ässe (M:4;06)
if he could there to-lunch eat
4. wenn **ich** verlüre (M:4;09)
when I lose

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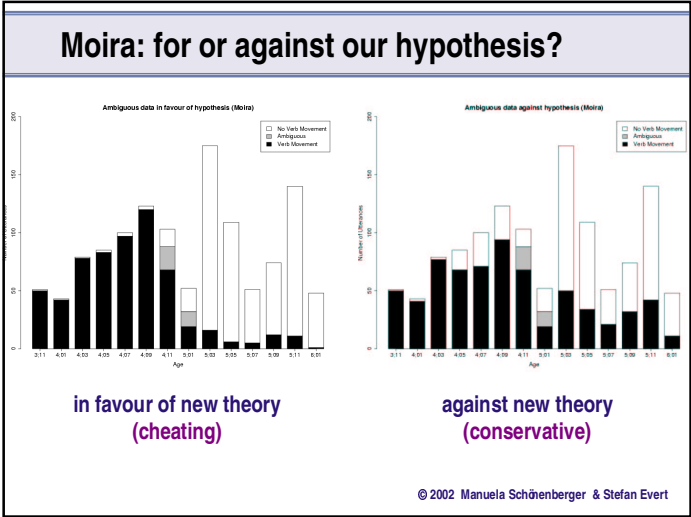


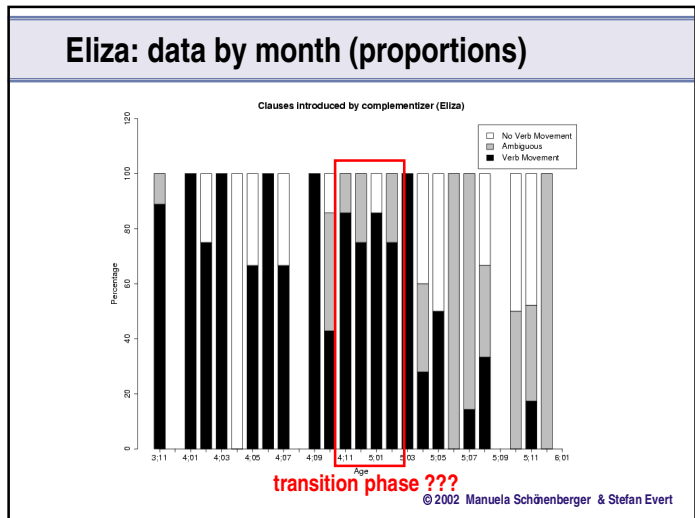
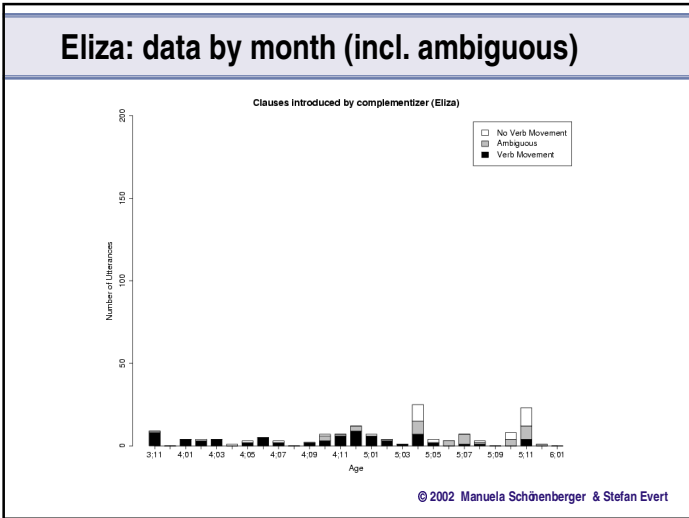
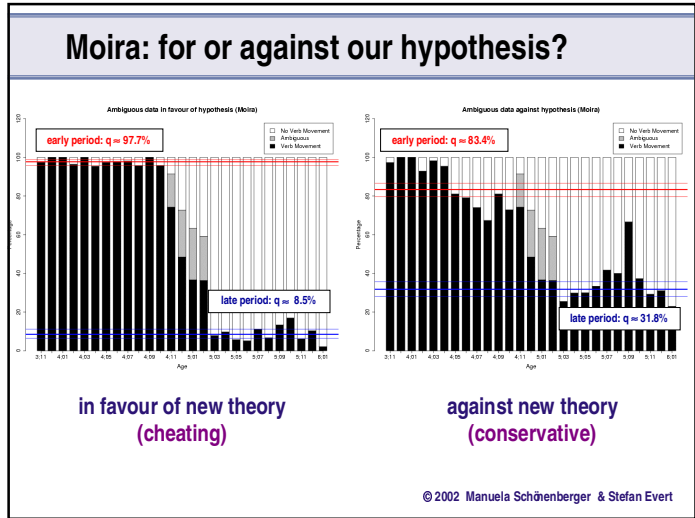
Moira: early period vs. late period

Moira	3;11	4;01	4;03	4;05	4;07	4;09	4;11	5;01	5;03	5;05	5;07	5;09	5;11	6;01
<u>mv</u>	50	41	77	68	71	94	68	19	16	6	5	12	11	1
<u>amb</u>	0	1	1	15	26	26	20	13	34	28	16	20	31	10
<u>no mv</u>	1	1	1	2	3	3	15	20	125	75	30	42	98	37

Moira	Early	Late
<u>mv</u>	401	51
<u>amb</u>	69	139
<u>no mv</u>	11	407

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Eliza: early period vs. late period

Eliza	3;11	4;01	4;03	4;05	4;07	4;09	4;11	5;01	5;03	5;05	5;07	5;09	5;11	6;01
<u>mvt</u>	8	7	4	7	2	5	15	9	8	2	2	0	4	0
<u>amb</u>	1	0	0	0	0	3	4	1	8	3	7	4	9	0
<u>no mvt</u>	0	1	1	1	1	1	0	1	10	2	1	4	11	0

Eliza	Early	Late
<u>mvt</u>	33	16
<u>amb</u>	4	31
<u>no mvt</u>	5	28

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