ON THE INTERPLAY OF PRODUCTIVITY, CREATIVITY, AND STRUCTURAL RICHNESS

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INTRODUCTION

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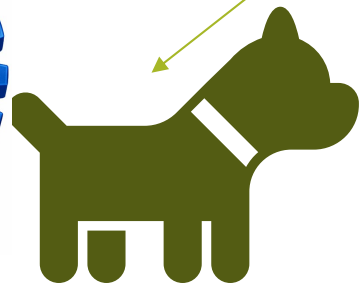
Onomasiology and semasiology



DOG

- How is this object called?
- What form is associated with this meaning?

- What is *DOG?*
- What meaning is associated with this form?

Miloš Dokulil – an onomasiological approach to word-formation

A person who walks a dog.

- SUBSTANCE
- ACTION
- QUALITY
- CONCOMITANT CIRCUMSTANCE

Miloš Dokulil – an onomasiological approach to word-formation

A person who walks a dog.

SUBSTANCE

Miloš Dokulil – an onomasiological approach to word-formation

A person who walks a dog.

SUBSTANCE

dogwalker

onomasiological MARK

onomasiological BASE

Miloš Dokulil – the onomasiological approach to word-formation

A person who walks a dog.

dogwalker

-er

onomasiological MARK

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dogwalker

dogwalk *-er*

determining determined

onomasiological MARK

onomasiological BASE

Miloš Dokulil – the onomasiological approach to word-formation

A person who walks a dog.

dogwalker

walk *-er*

determining determined

onomasiological MARK

onomasiological BASE

Miloš Dokulil – the onomasiological approach to word-formation

A person who walks a dog.

dogwalker

dog *walk* *-er*

determining determined

onomasiological MARK

onomasiological BASE

Dokulil – Stekauer

A person who walks a dog.

dogwalker

onomasiological MARK

onomasiological BASE

determining

determined

Object

dog

Action

walk

Agent

-er

MARCHAND

determinant

dog

determinatum

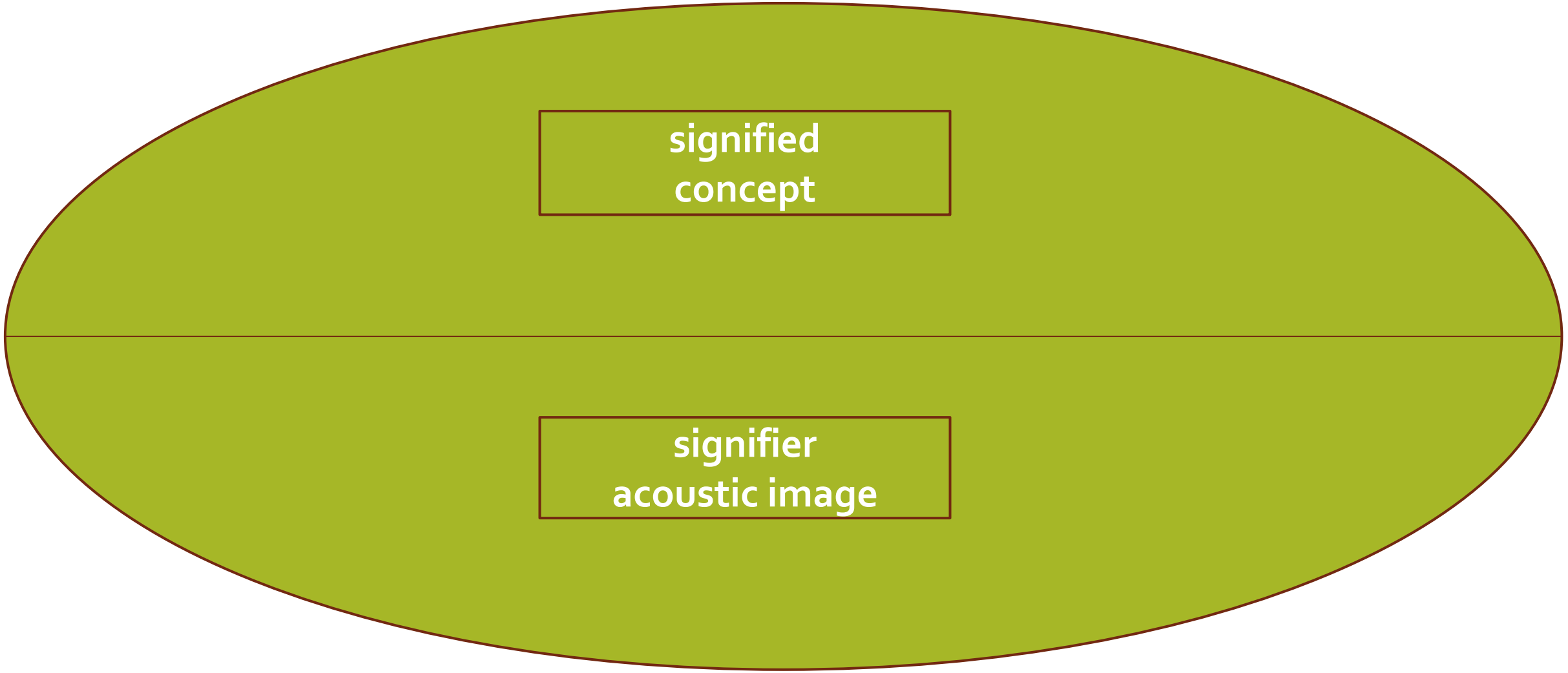
walker

Dokulil – Stekauer

A person who walks a dog.

	onomasiological MARK		onomasiological BASE	
	determining		determined	
dogwalker	*dog*		*walk*	*-er*
	Object		Action	Agent
dogger	*dog*			*-er*
	Object		(Action)	Agent
walker	(Object)		Action	Agent
			walk	*-er*
doggy		*dog*		*-y*
		Patient		Size

Ján Horecký – linguistic sign



Ján Horecký – linguistic sign

A person who walks a dog.

Ján Horecký – linguistic sign

dogwalker

Ján Horecký – linguistic sign

dogwalker

SEMANTIC

semantic features (animate, inanimate, human being, animal, instrument)

ONOMASIOLOGICAL

OM (Object+Action)+OB (Agens)

ONOMATOLOGICAL

dog+walk+er

dogwalker

Onomasiological model of WF

EXTRALINGUISTIC REALITY — **OBJECT** — *A person who walks a dog.*

COGNITIVE — **LOGICAL PREDICATES**

- It is a SUBSTANCE.
- The SUBSTANCE is a human being.
- They perform an ACTION.
- The ACTION is walking an animal.
- The animal is a dog.
- They have a leash.

ONOMASIOLOGICAL — **SEMANTIC CATEGORIES**

- AGENT
- ACTION
- INSTRUMENT
- OBJECT

Morpheme-to-Seme-Assignment Principle

ONOMATOLOGICAL — **MORPHEMES**

dog | *walk* | *-er*

PHONOLOGICAL — **PHONEMES, STRESS …**

/ˈdɔːgˌwɔːkər/

What happens in the process of word-formation?

EXTRALINGUISTIC REALITY — **OBJECT** — *A person who walks a hedgehog.*

COGNITIVE — **LOGICAL PREDICATES**

- It is a SUBSTANCE.
- The SUBSTANCE is a human being.
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ONOMASIOLOGICAL — **SEMANTIC CATEGORIES**

Morpheme-to-Seme-Assignment Principle

ONOMATOLOGICAL — **MORPHEMES**

AGENT	ACTION	INSTRUMENT	OBJECT
-ER	WALK	LEASH	HOG
-IST	HANDLE	LEAD	HEDGIE
MAN	WHISPER		SPIKY
MASTER	STROLL		PRICKLE

hoghandler — *hedgehogwalker* — *hogleasher* — *prickleleasher* — *prickleman* — *spikywalker*

hogwhisperer — *hogstrollist* — *hogman* — *hedgiewalker* — *hogmaster* — *prickiewalker*

PHONOLOGICAL — */ˈhɒgˌwɔːkər/*

A person who walks a hedgehog.

	semantic transparency	economy
hedgehogwalker	Object-Action-Agent	
hedgehogger	Object-Agent	
walker	Action-Agent	
walk	Action-Agent walk	

NAMING STRATEGY

	semantic transparency	economy
hedgehogwalker	Object-Action-Agent	
hedgehogger	Object-Agent	
walker	Action-Agent	
walk	Action-Agent walk	

A person who walks a hedgehog.

hedgehogwalker	Object-Action-Agent
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A person who walks a hedgehog.

hedgehogwalk-er	Object-Action-Agent
OB	
hedgehogger	Object-Agent
walker	Action-Agent
walk	Action-Agent walk

A person who walks a hedgehog.

hedgehog-walk-er DedOM+OB	Object-Action-Agent
hedgehogger	Object-Agent
walker	Action-Agent
walk	Action-Agent walk

A person who walks a hedgehog.

onomasiological types

OT 1	*hedgehog-walk-er* DingOM+DedOM+OB	Object-Action-Agent
	hedgehogger	Object-Agent
	walker	Action-Agent
	walk	Action-Agent walk

A person who walks a hedgehog.

onomasiological types		word-formation types	morphological types
OT 1	*hedgehogwalker* Ding+Ded OM+ OB	Object-Action-Agent	N+V+er
OT 2	*hedgehogger* Ding OM+ OB	Object-Agent	V+er
OT 3	*walker* Ded OM+ OB	Action-Agent	N+er
OT 4	*walk* recategorization	Action-Agent walk	V->N

cluster of word-formation types (WFT)

all WFT for one semantic category (e.g. AGENT)

onomasiological types		word-formation types	morphological types
OT 1	*hedgehogwalker* Ding+Ded OM+ OB	Object-Action-Agent	N+V+er
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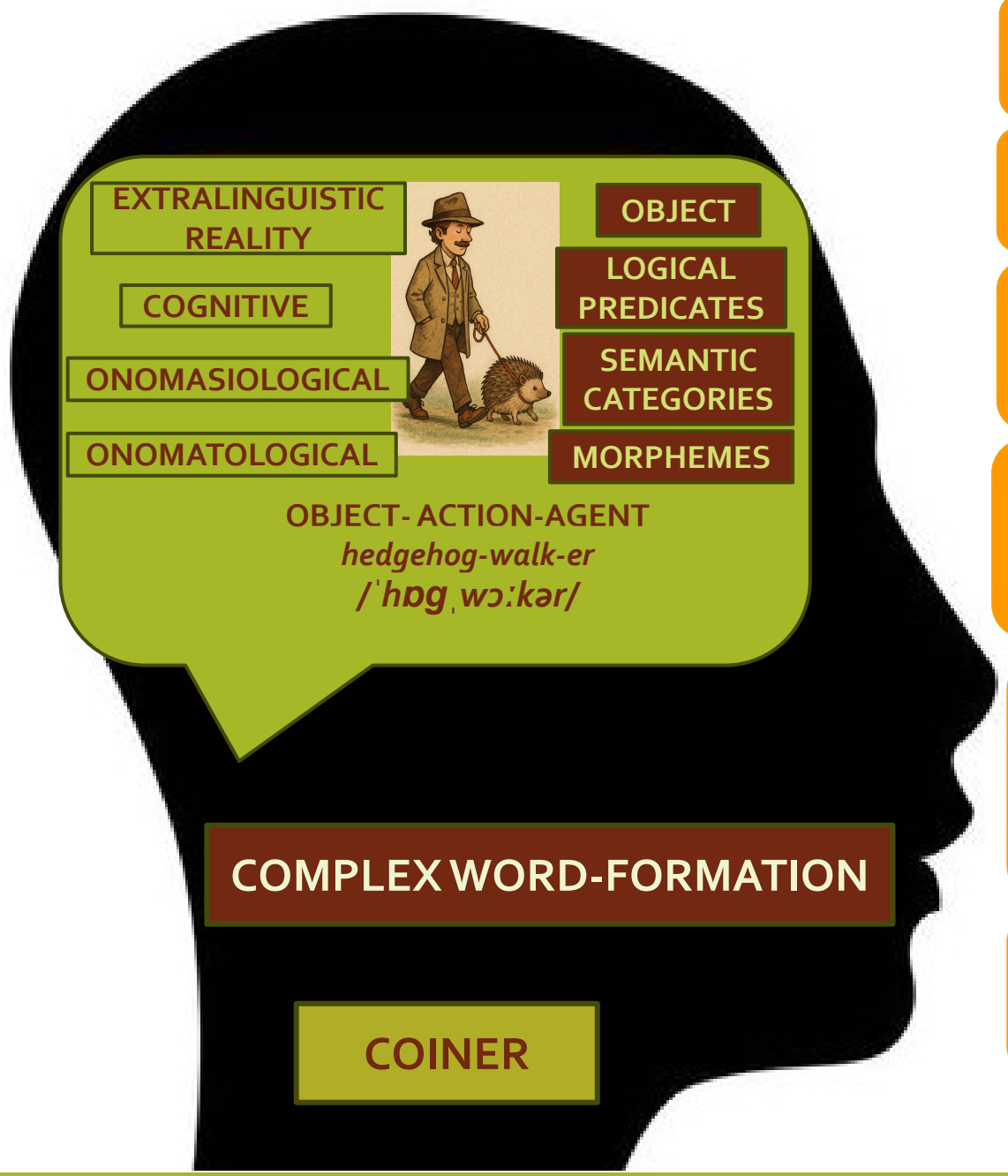


General knowledge and experiences

Linguistic knowledge and experiences

Sociolinguistic factors (age, gender, profession, etc.)

Psycholinguistic factors (cognitive faculties and processes, creativity, etc.)

Naming strategy
(Semantic transparency vs. economy of expression)

Onomasiological type
Word-formation type
Morphological type.

COMPLEX WORD

Creativity

EXTRA-LINGUISTIC REALITY

Productivity

General knowledge and experiences

Linguistic knowledge

SPEECH COMMUNITY (coiner)

Psycholinguistic factors

Naming strategy

WORD-FORMATION SYSTEM

Morphological type

Structural Richness

Productivity – introduction

traditional approach

- productivity of specific affixes/affixation rules
- productivity of competing affixes
- word-formation competition?
- semasiological approach

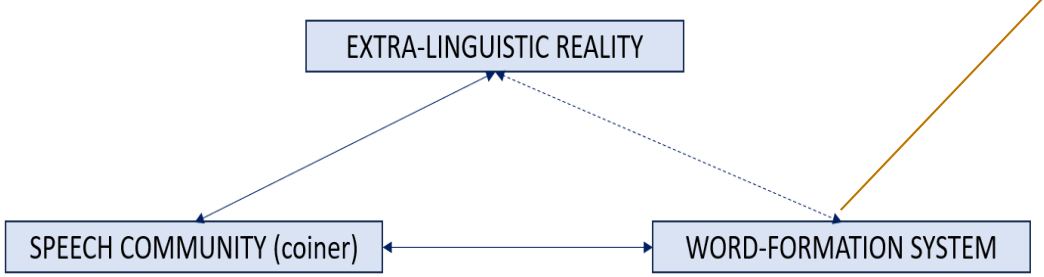
our approach

- principle of competition
- principle of type cluster
- onomasiological approach

Productivity – principle of competition

- MacWhiney (2014: 386), "nothing in language makes sense except in the light of competition … because we use language as the basic glue for our social lives, these competing motivations are as diverse as the many facets of human life and thought."
- competition in word-formation: all processes, rules, and strategies that can be used for the **same purpose**, i.e., for fulfilling the same cognitive-semantic function

Principle of type cluster



cluster of word-formation types (WFT)

all WFT for one semantic category (e.g. AGENT)

Any WFTC is – with regard to the particular semantic category is 100% productive

onomasiological types	word-formation types	morphological types
OT 1 *hedgehogwalker* Ding+Ded OM+ OB	Object-Action-Agent	N+V+er
OT 2 *hedgehogger* Ding OM+ OB	Object-Agent	N+er
OT 3 *walker* Ded OM+ OB	Action-Agent	V+er
OT 4 *walk* recategorization	Action-Agent walk	V->N

Productivity - calculation – experiment - respondents

two age groups

two gender groups

16-17

323 secondary school students

381 females

21-22

309 university undergraduates

251 males

Productivity - calculation

- data – one semantic category (Agent, Instrument, Action, Object …)
- corpora, dictionaries, elicitation -> synchronic approach
- data sheets

A person whose smiling face is used for billboard advertisements:

a. smiler	d. smileman	g. other:
b. smilist	e. smile-person	
c. smilant	f. smile	

Suppose that a woman has a clone made of herself. Then suppose that a man has a clone made of himself. Now suppose that the two clones marry each other and have a child. What would you call the child?

cloneling, clonekid

George Clooney

- data collection
- data analysis (WFT, MT, OT)
- number of words per each WFT
- productivity calculation

- *birdcatcher:* OT1; Object-Action-Agent; N+V+er
- *car surfer:* OT1; Location-Action-Agent; N+V+er
- *roof rider:* OT1; Location-Action-Agent; N+V+er
- *smileman:* OT2; Action-Agent; V+N
- *webist:* OT3; Object –Agent; N+ist

4000

Word Formation Type Cluster (WFT) (AGENT)

- Object-Action-Agent
- Location-Action-Agent
- Action-Agent
- Object -Agent

500

Any WFTC is – with regard to the particular semantic category is 100% productive

$$productivity\ of\ WFT = \frac{all\ complex\ words\ belonging\ to\ WFT}{all\ complex\ words\ belonging\ to\ the\ cognitive\ category}$$

$$productivity\ of\ \mathbf{Object-Action-Agent} = \frac{500}{4000} \times 100 = 12.5\%$$

Productivity

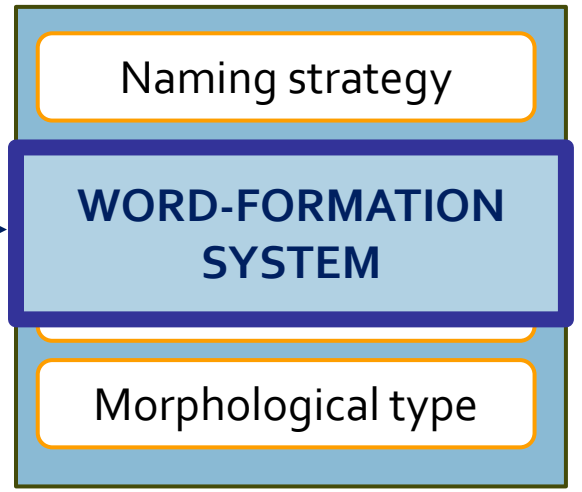
- onomasiological perspective
- synchronic approach
- can be calculated for respective semantic categories for OT, WFT and MT


Creativity


EXTRA-LINGUISTIC REALITY


Productivity


General knowledge and experiences
Linguistic knowledge
SPEECH COMMUNITY (coiner)
Psycholinguistic factors


Naming strategy
WORD-FORMATION SYSTEM
Morphological type

Approaches to linguistic creativity

Schultink, Lieber, Bauer, Dressler, Mattiello …

deviation from the productive rules; use of non-rule governed processes

product

onomasiological approach

each new word results from the creative activity (creative performance) of a speaker of a language

process

Does the product of word-formation deviate from the rules?

How is the creative potential manifested in word-formation?

creative aspect of language

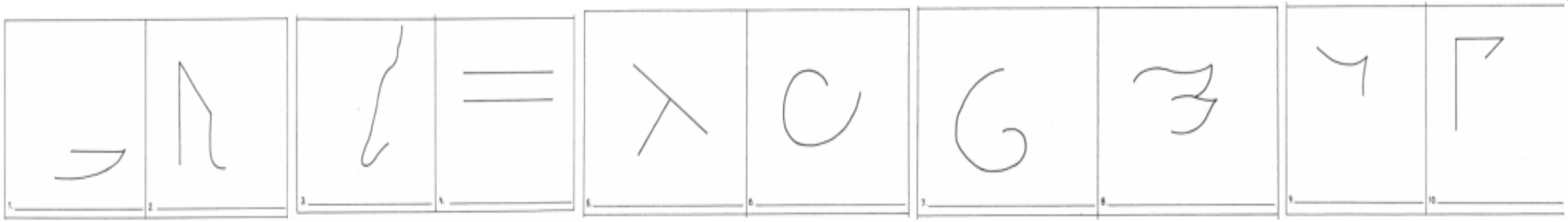
creative potential of the coiner

"linguistic creativity is not simply a property of exceptional people, but an exceptional property of all people" Carter (2015)

Psychological data

- Torrance test of figurative thinking (TTCT)
- 3 tasks – pictures: picture construction; picture completion; repeated figures of circles
- indicators of creative potential: fluency, flexibility, elaboration, originality

FLUENCY



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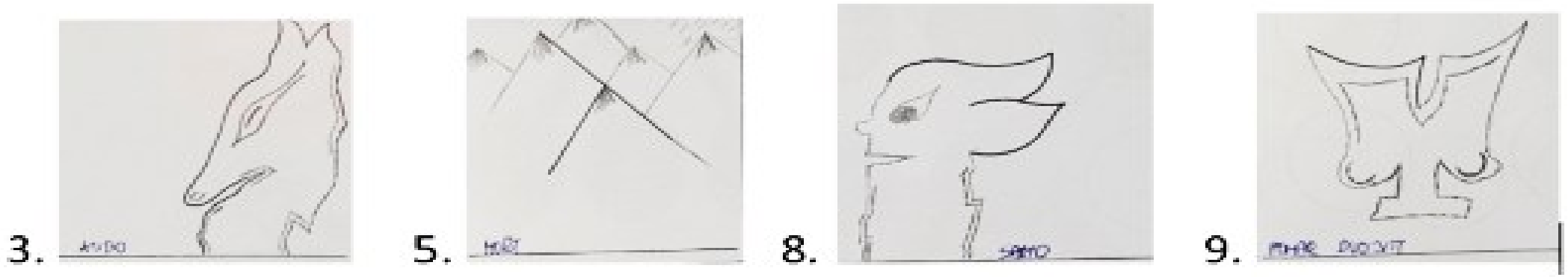

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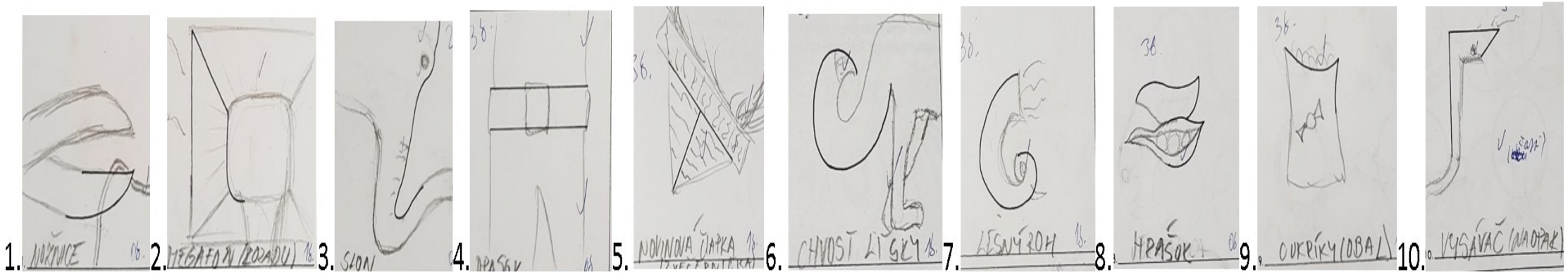
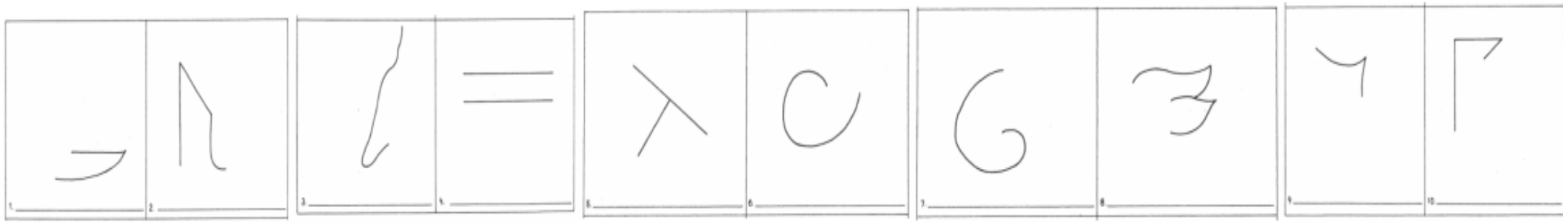


FLEXIBILITY



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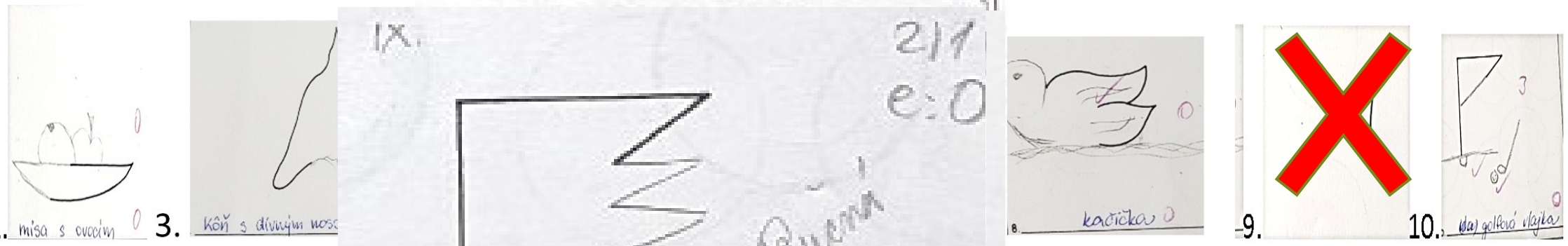
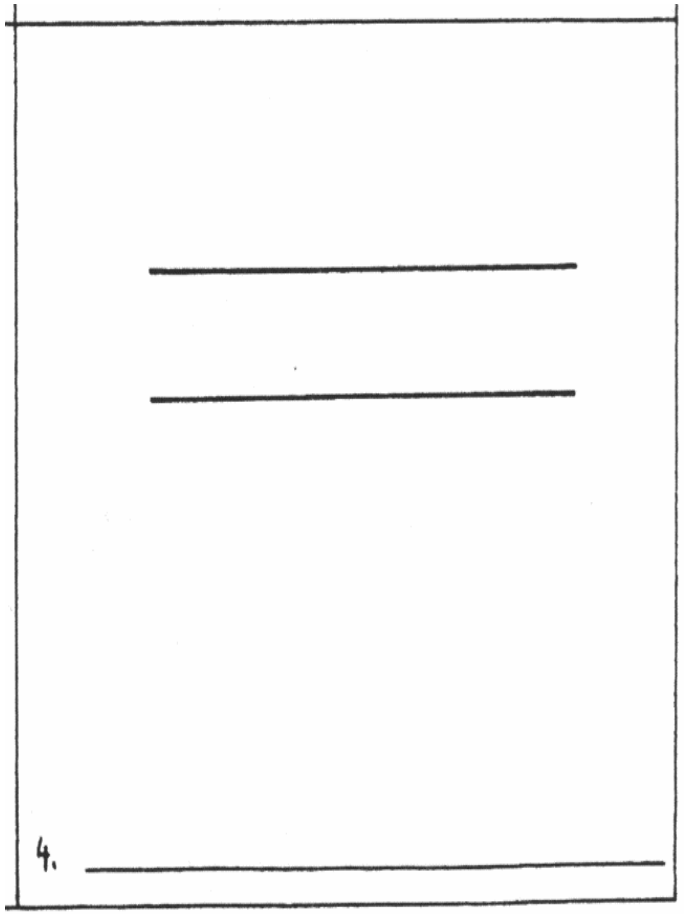


HIGH

ORIGINALITY



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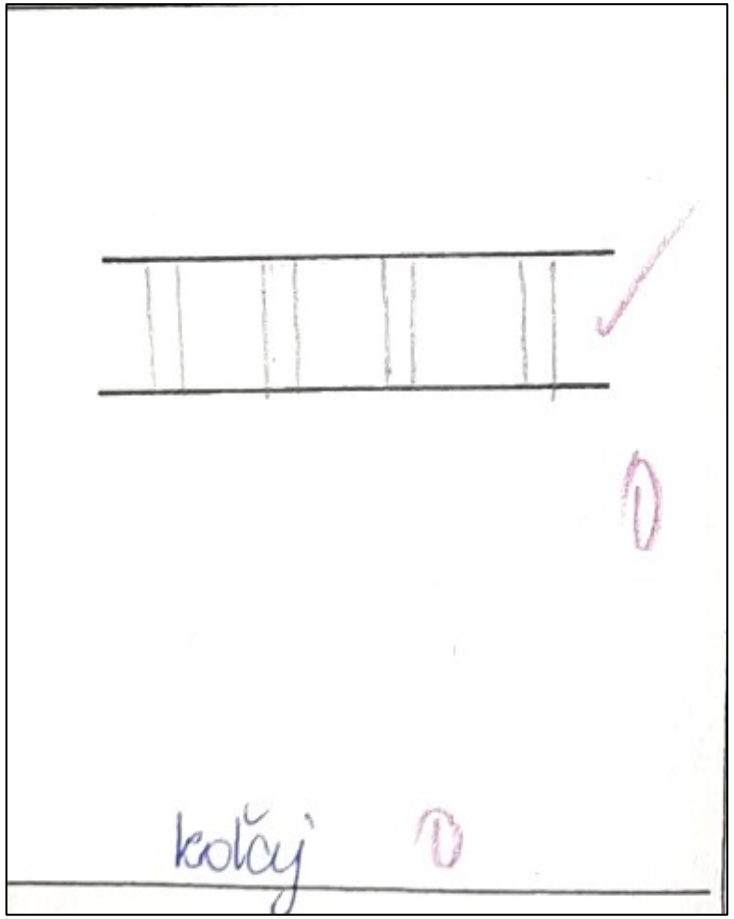

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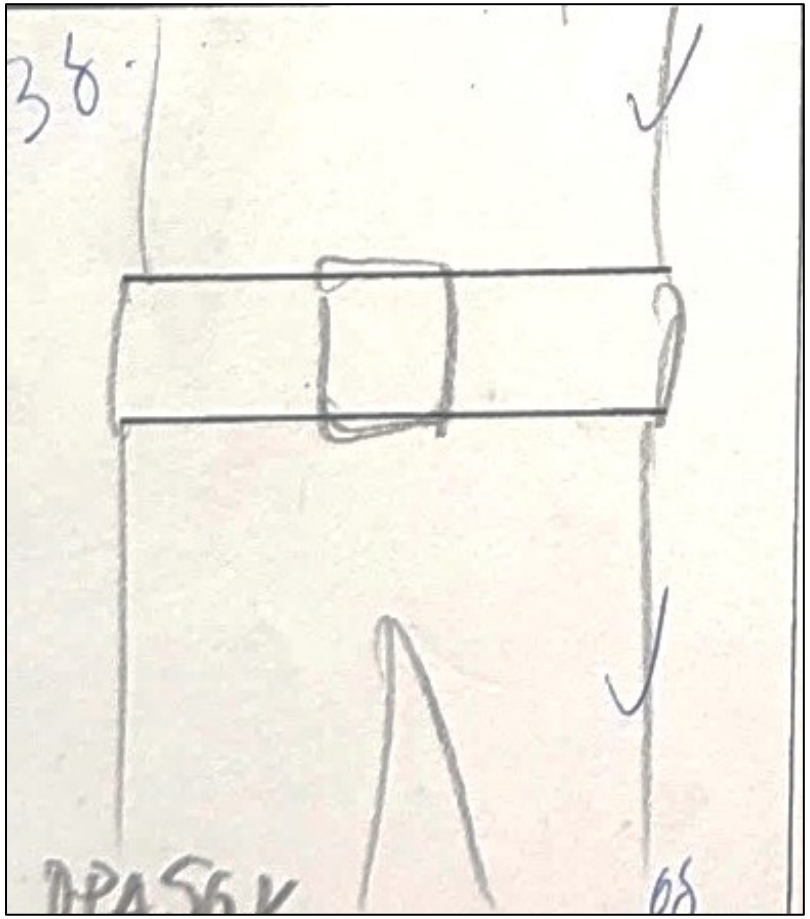
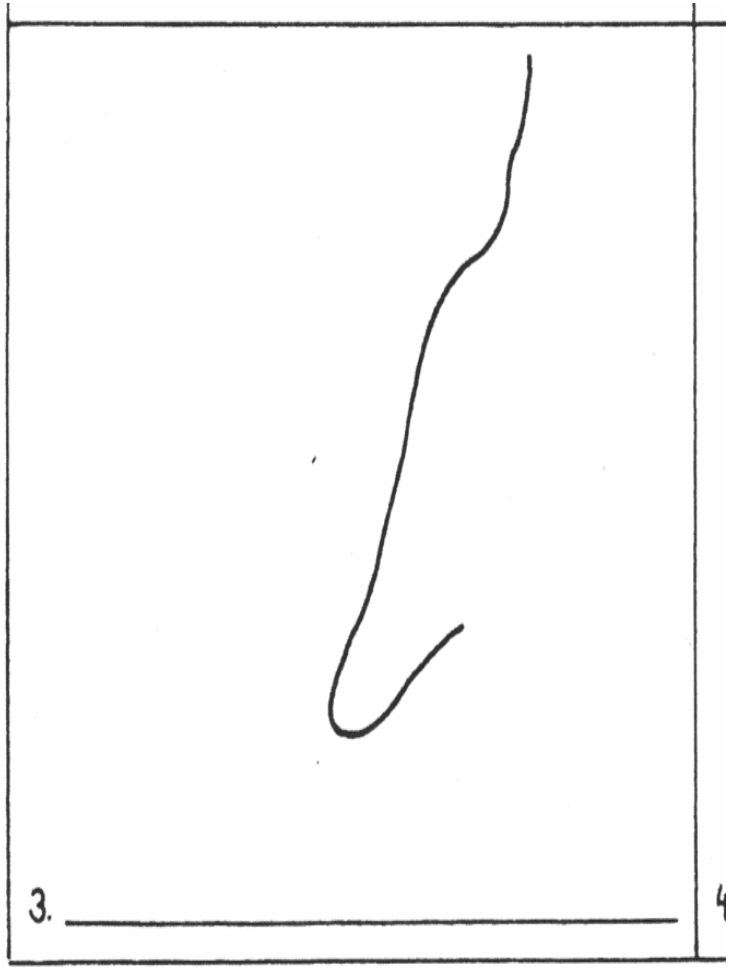


ELABORATION



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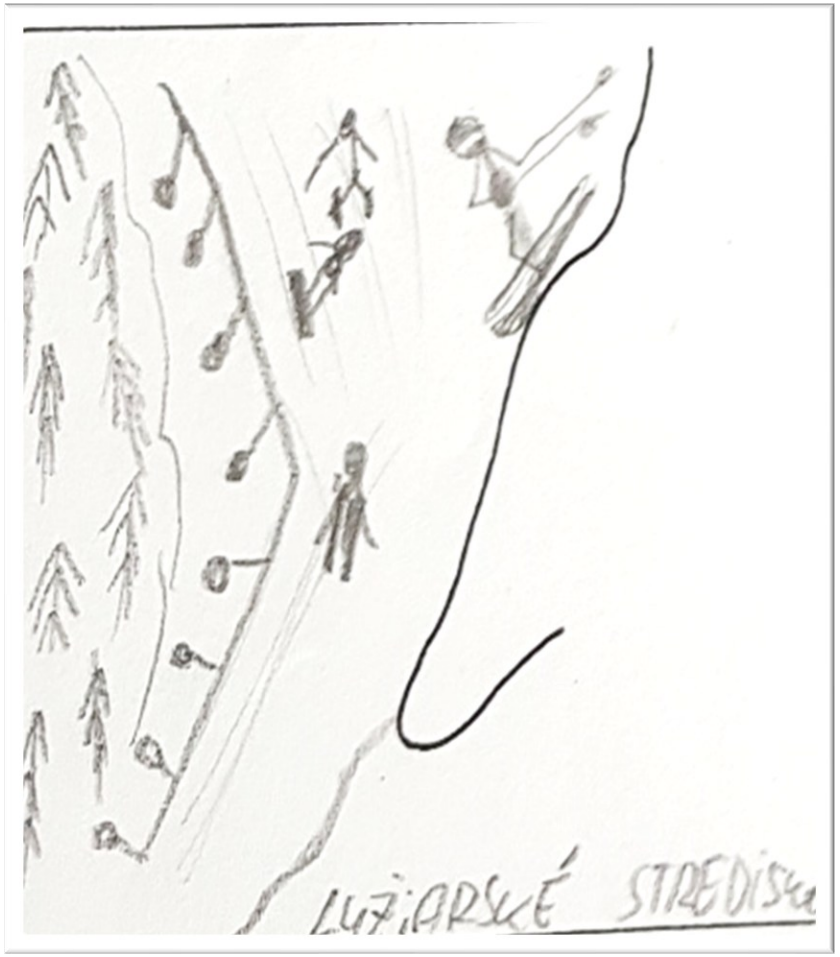

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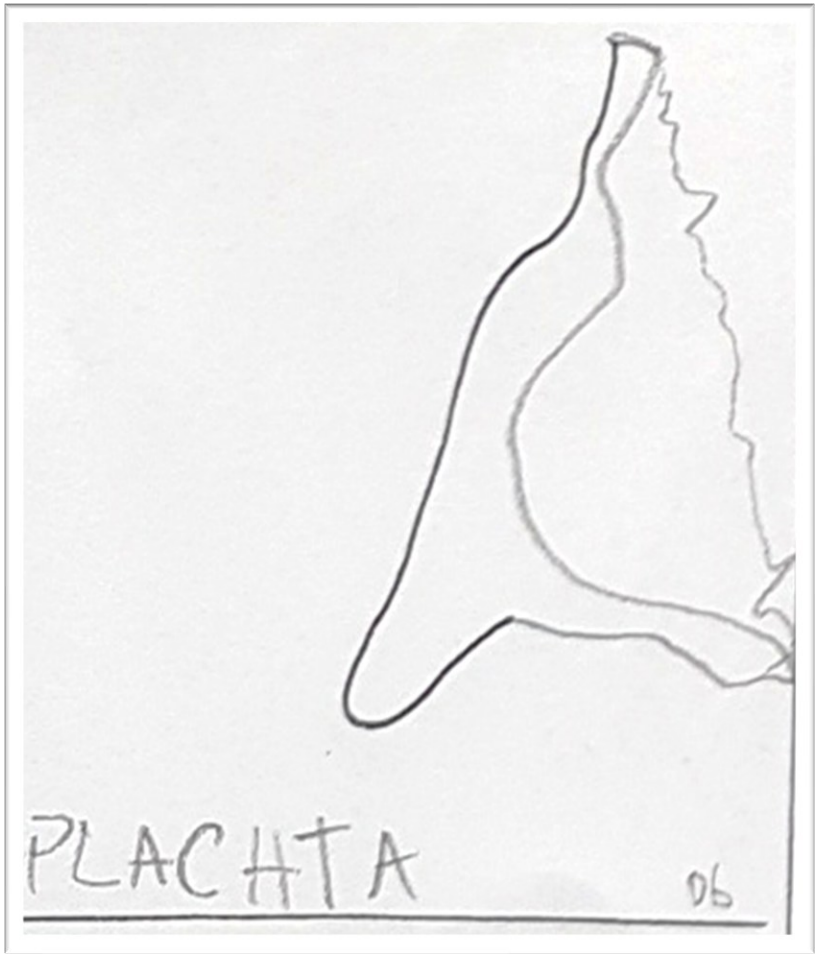


Evaluation of TTCT

- composite score
- standard value
- standard deviations – how many data are above/below the average value
- Quartile split method

- high cohort (high scores in TTCT) **H cohort**

- achievements in the word-formation test versus creativity indicators and the additional subscores

- is the general creative potential reflected in the word-formation creativity?

- if yes, to what degree?

- reflection of the influence of creative potential upon creative performance in word-formation

- low cohort (low scores in TTCT) **L cohort**

preference for more transparent complex words increases with age for both female and male speakers.

birdcatcher

birder, catcher, catch

There is a general tendency towards forming new complex words of higher semantic transparency and lower economy in the H-cohort. The creativity indicators that appear to be related to word-formation creativity in the sense of this tendency include Originality and Elaboration.

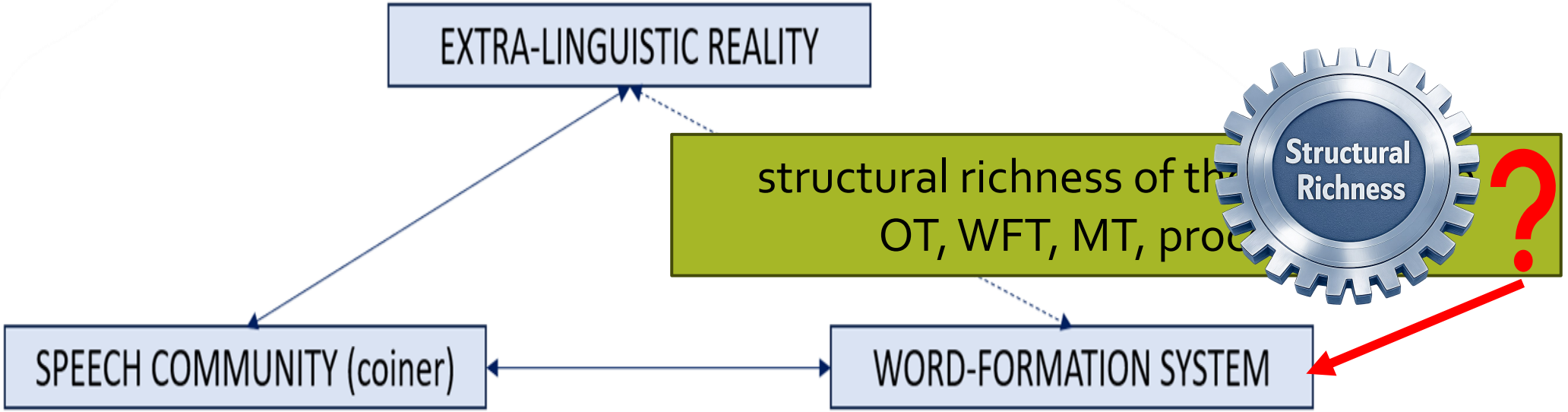
There is a much higher occurrence of failed answers in the L-cohort. This tendency is most evident in the creativity indicator Originality, and slightly less evident in Elaboration.

Productivity

- onomasiological perspective
- synchronic approach
- can be calculated for respective semantic categories for OT, WFT and MT

Linguistic creativity

- onomasiological approach
- synchronic approach
- focus laid on the creative performance of the coiner



Structural richness

- structural complexity of the system under investigation
- its quantitative representation: SATURATION VALUE
  - 3 areas of application
    - Körtvélyessy, 2015, evaluative morphology, 200 world languages
    - derivational networks, 44 languages of Europe
    - word-formation, 73 languages of Europe

the nature and the role of word-formation systems

- basis: 100 **comparables** representing 12 **WF processes**

linguistic features that serve comparison of prototypical (theory-independent) manifestations of word-formation systems in sample languages

compounding, suffixation, prefixation, prefixal-suffixal derivation, postfixation, infixation, circumfixation, reduplication, blending, conversion, root-and-pattern, internal modification

Process	Type	comparable	slk
Compounding	recursive	recursive	0
	determinative	N+N	1
		A+N	1
		V+N	1
		Adv+N	1
		V+V	0
		N+V	1
		A+V	0
		Adv+V	1
		A+A	1
		N+A	1
		V+A	0
		Adv+A	1
		Adv+Adv	0
		N+Adv	0
		A+Adv	0
		V+Adv	0
	copulative	N+N	1
		V+V	0
		A+A	1
		Adv+Adv	0
	exocentric	redskin	1
		garde-manger	1
	synthetic	synthetic	1
	phrasal	phrasal	0
	linking element	link	1
		no link	1

- absolute saturation value
- relative saturation value

$$\frac{AC}{\sum \text{comparables}} \times 100 = RSV\ (\%)$$

- *AC* - the number of actually realized comparables of a given WF process
- ∑ comparables - the sum total of comparables available in the given WF process
- RSV - relative saturation value

$$\frac{16}{\sum 27} \times 100 = 59.26\%$$

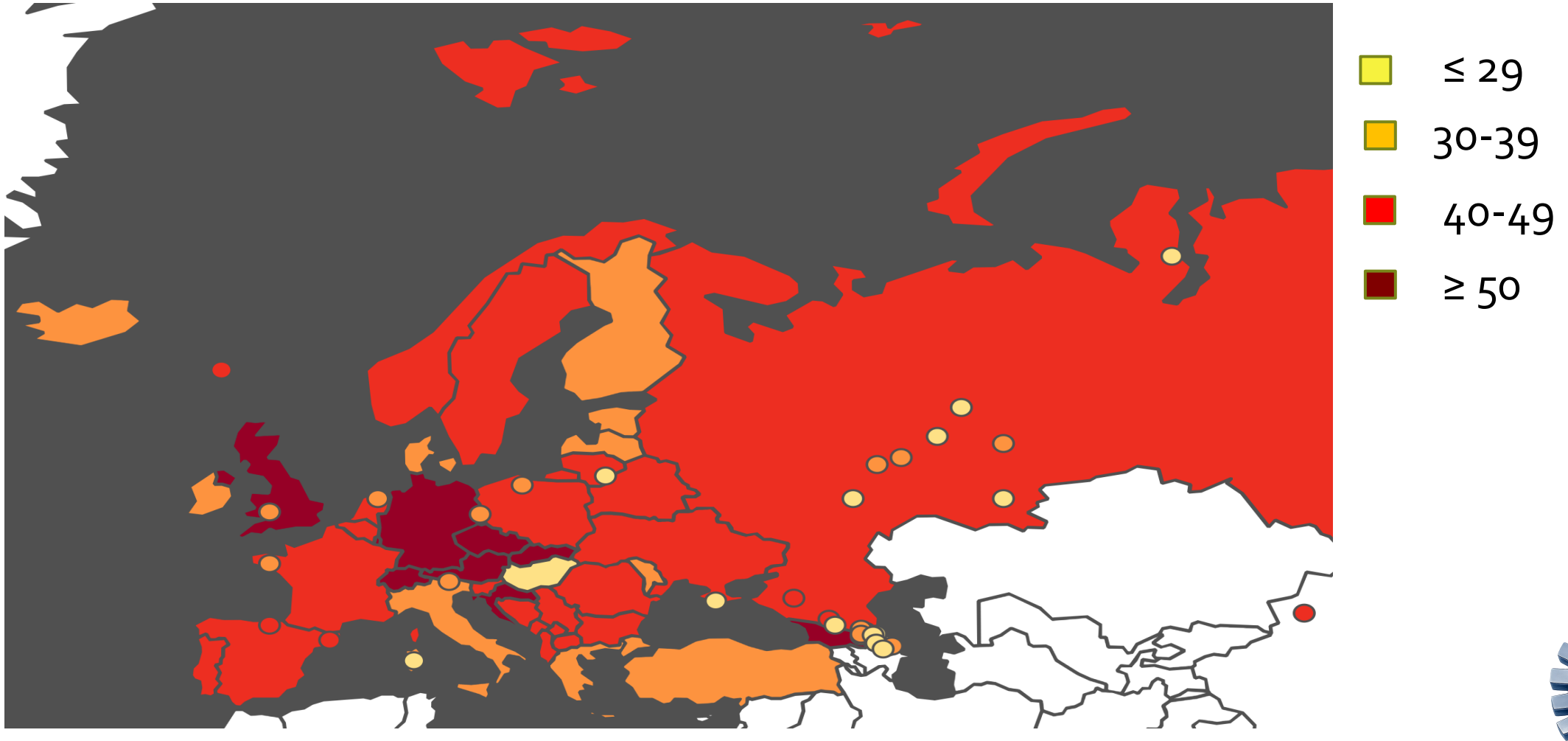
Comp SAT (slk)= 59.26%

Saturation value – WF – inter-language level

	Slovak		Swedish	
WF process	absolute saturation	relative saturation	absolute saturation	relative saturation
suffixation	14	82.35294	12	70.58823529
prefixation	6	35.29412	5	29.41176
compounding	16	59.25926	20	74.07407
conversion	4	33.33333	3	25

Compounding	Compar.	Slovak	Swedish
recursive	recursive	0	1
determinative	N+N	1	1
	A+N	1	1
	V+N	1	1
	Adv+N	1	1
	V+V	0	1
	N+V	1	1
	A+V	0	1
	Adv+V	1	1
	A+A	1	1
	N+A	1	1
	V+A	0	1
	Adv+A	1	1
	Adv+Adv	0	0
	N+Adv	0	0
	A+Adv	0	0
	V+Adv	0	0
copulative	N+N	1	1
	V+V	0	0
	A+A	1	1
	Adv+Adv	0	0
exocentric	redskin	1	1
	garde-manger	1	0
synthetic	synthetic	1	1
phrasal	phrasal	0	1
linking element	link	1	1
	no link	1	1

Saturation value – supra-language level



Structural Richness

Saturation value - Euroversals

Absolute Euroversal: class-maintaining N>N suffixation

Statistical Euroversals: class-changing V>N suffixation (72 languages)

Determinative N+N compounding (71 languages)

Class-changing A>N suffixation (71 languages)

Class-changing N>A suffixation (71 languages)

No occurrence: class-changing Adv>N prefixation, Class-changing V>Adv prefixation, class-changing Adv>A prefixation, class-changing A>Adv prefixation, circumfixation producing Verbs, circumfixation producing Adjectives, circumfixation producing Adverbs, root-and-pattern in Adverbs, infixation producing Nouns, infixation producing Adjectives, infixation producing Adverbs, V+Adv compounding, change of stress, change of tone

Productivity

- onomasiological perspective
- synchronic approach
- can be calculated for respective semantic categories for OT, WFT and MT

Linguistic creativity

- onomasiological approach
- synchronic approach
- focus laid on the creative performance of the coiner

Saturation value

- semasiological approach
- synchronic approach
- numerical representation of the structural richness of the system under investigation

language system

semasiology

structural richness of the word-formation system

user of the language

onomasiology

degree of utilization of one's creative potential in creative performance

language system

onomasiology

degree of participation of OT, WFT, MT … in coining new complex words within one cognitive category

THANK YOU VERY MUCH!