

SECONDARY PROCESS MENTATION AS A DEFENSE AGAINST AMBIGUITY *an empirical study in clinical populations with exacerbated control* *using pictorial, linguistic and rebus stimuli*

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INTERMEDIARY REPORT

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HYPOTHESES

1. THEORETICAL HYPOTHESES

- (1) In populations with exacerbated control, such as obsessional neuroses and specific phobias, there is more secondary process mentation than in control populations.
- (2) Primary and secondary processes are broad and general principles of mental functioning, transcending stimulus-specific processing.
- (3) Primary processes are also potentially anxiogenic and are defended against due to their anxiogenic character.

2. OPERATIONALIZED HYPOTHESES

At this point we only have results for **Study 1**: the less participants can control their anxiety, the more primary process parameters (**ppm**): more attributional choices on the GeoCat (**#Att**), more rebus solving (**ReSo**) and more phonological choices in word list task (**P**).

- (1) The ppm in the total population correlates negatively with the defensiveness and with the intensity of obsessional and/or phobic symptoms.
- (2) There are reciprocal correlations between the ppm, i.e. #Atts, ReSo and #P either in the PS and/or in the PN condition.
- (3) The avoidance of a response is all the higher when this response refers to a negatively valence and/or clinically problematic theme in a primary process mode (i.e., by phonology).

RESEARCH RESULTS

We can by now show the first part of the results in a general population (Study 1).

- (1) We have done 8 preliminary studies with the rebuses with an average N=167 participants/study, trying out different rebuses, rebus images, and target words.
- (2) Results of the final rebus study in general population **STUDY 1**: % resolution of the rebuses in the experimental condition (**ReSoEX**) as compared to the control-rebus condition (**ReSoCR**) and the control-nothing condition (**ReSoCN**) in 215 naïve participants out of a total N=258 (inter-subject conditions).

	REBUS	TARGET WORD	ReSoEX	ReSoCR	ReSoCN
1	citron <i>scie-tronc</i>	JUS	8,9	1,7	5,4
2	rallye <i>rat-lit</i>	DAKAR	20,6	10,7	6,8
3	baleine <i>bas-laine</i>	DAUPHIN	6,1	4,5	4,2
4	braquage <i>bras-cage</i>	BANQUE	4,2	3,4	7,3
5	pompier	FEU	17,2	10,1	4,8

6	<i>pont-pied</i> chapelle <i>chat-pelle</i>	PRECHER	9,3	1,1	0,3
7	panthère <i>paon-terre</i>	TIGRE	2,8	2,5	1,7
8	minceur <i>main-soeur</i>	LIGNE	1,4	0,6	2,8
9	troupeau <i>trou-peau</i>	MOUTONS	17,5	7,5	11,8
10	dessert <i>dé-serre</i>	COMPOTE	7,9	4,4	1,4
11	rapace <i>rappe-as</i>	AIGLE	14,6	12,1	11,9
12	tourner <i>tour-nez</i>	PAGE	14,4	1,7	5,0
13	vertige <i>vert-tige</i>	VIDE	22,3	13,8	17,8
14	cerveau <i>cerf-veau</i>	NEURONES	26,8	31,3	29,7
15	métro <i>mètre-eau</i>	TRANSPORT	20,8	7,9	11,9

As can be seen, associating upon 13 out of the 15 target words more frequently yield the solved rebus when these words are preceded by the image of the respective rebus (ReSoEx) as compared to when these words are preceded by images of a rebus unrelated to the target words (ReSoCR) and as compared to when these words are preceded by simple association crosses, i.e Nothing (ReSoCN). Indeed, the differences between ReSoEX and ReSoCR ($p=.003$) and ReSoEX and ReSoCN ($p=.008$) are highly statistically significant, while the difference between ReSoCR and ReSoCN ($p=.477$) is not (Wilcoxon rank test for related samples): in other words, participants who are shown to be strictly unwitting of the fact that the images form rebuses, show evidence of having resolved the rebuses nevertheless. In conclusion, people can resolve rebuses unwittingly.

(3) The final WordList study in general population **STUDY 1:**

			Correlations.						
			ATT	PS	PN	SN	IASTAI	IASTAI	MCS D
Spearman Rho	ATT (GeoCat)	Coefficient de corrélation Sig. (bilatéral) N	1,000 501						
	#P/PS	Coefficient de corrélation Sig. (bilatéral) N	,062 ,166 501	1,000 501					
	#P/PN	Coefficient de corrélation Sig. (bilatéral) N	-.103* ,021 501	.536** ,000 501	1,000 501				
	#S/SN	Coefficient de corrélation Sig. (bilatéral) N	-.112* ,012 501	-.418** ,000 501	,071 ,114 501	1,000 501			
	IASTAI (state anxiety)	Coefficient de corrélation Sig. (bilatéral) N	.136** ,002 501	.194** ,000 501	,025 ,573 501	-.224** ,000 501	1,000 501		
	IASTAI (trait anxiety)	Coefficient de corrélation Sig. (bilatéral) N	,030 ,502 501	.232** ,000 501	.127** ,004 501	-.175** ,000 501	.662** ,000 501	1,000 501	
	MCS D (defocusivity)	Coefficient de corrélation Sig. (bilatéral) N	-.007 ,879 501	-.137** ,002 501	-.039 ,385 501	.124** ,005 501	-.254** ,000 501	-.339** ,000 501	1,000 501

Legend: **blue**: expected reciprocal correlations between related questionnaires), **red**:

- **The more self-reported anxiety, the more attributional choices on the GeoCat and the more Phonological choices (P) in PS (P-Semantic) and in PN (P-Nothing) presentations.**
- **The more defensive, the more S choices in PS and SN presentations.**
- **Interestingly, the more self-reported anxiety the more N choices in SN.**

Discussion: The more anxious, the more individuals show signs of primary process mentation (ATTs in GeoCat, phonological similarity in language), while the more defensive, the more individuals cling to semantic similarity in language. Primary process mentation and self-reported anxiety also go together with the exploration of idiosyncratic associations (N in SN). It must be noted that correlations are all very modest (.1-.2), even if clearly significant: we propose that *personality factors such as (self-reported) anxiety and defensiveness play modest background influence in the way an individual handles language as concerns very basic processes such as making associations between words. Thus, associative processes are not considered automatic, but already influenced by personality, even if in subtle ways.* Interestingly, *the influences of self-reported anxiety and defensiveness are in a reciprocal mirror configuration.* If we consider the possibility of exploring phonological ambiguity and idiosyncratic semantic associations as signs of mental dynamism, reporting anxiety goes together with increasing mental dynamism, while defensiveness goes together with increasing mental rigidity.

- (4) There is a very modest ($r=.15$) though significant ($p=.024$) correlation between #Att on the GeoCat and rebus solving (ReSo), confirming both as measures for primary process mentation.

OUTPUT RESULTS

(1) **Giulia Olyff** successfully finished her first year of her PhD

(2) Two posters (upon selection) were presented on the Rebus method:

- Brussels, Belgium, 31.05.2017. Annual Meeting of the Belgian Association of Psychological Sciences (BAPS). Olyff, G., Detandt, S., & Bazan, A. (2017). *On solving rebuses unwittingly*. This poster was given a **Best Poster Award**.
- London, UK, 13-15.07.2017. 18th International Neuropsychanalysis Congress. Olyff, G., Detandt, S., & Bazan, A. (2017). *On solving rebuses unwittingly*. This poster was selected for a **plenary data blitz presentation**.

(3) Though not specifically tied to this specific grant, IPA is acknowledged in the following publications:

Bazan, A. & Detandt, S. (2017). The grand challenge for psychoanalysis and neuropsychanalysis: a science of the subject. *Frontiers in Psychology*, 8, 1259.¹
<https://doi.org/10.3389/fpsyg.2017.01259>

(4) Two papers related to this research are in preparation at this point:

Olyff, G. & Bazan, A. (in preparation). *On solving rebuses unwittingly*. – *we would like to submit this paper to a psycholinguistic journal, possibly "Brain and Language"*.

Olyff, G., Cannova, L. & Bazan, A. (in preparation). *On the opposite influences of self-reported anxiety and defensiveness on language associativity*. – *we would like*

¹ « AB wishes to acknowledge both the help of the American Psychoanalytic Association and of the International Psychoanalytic Association for support to ongoing research in the fields of psychoanalysis and neuropsychanalysis. »

to submit this paper to a journal personality and individual differences, possibly "Personality and individual differences".

As to publishing in a psychoanalytic journal (*International journal of Psychoanalysis, Journal of the American Psychoanalytic Association, Psychoanalytic Psychology, Psychoanalytic Quarterly, Frontiers in psychology: psychoanalysis and neuropsychology*), we are certainly planning to do so, but in terms of strategy of publication, we would like to publish the partial results in non-psychoanalytic journals separately first, and in a second step publish a more encompassing overview of the results, including a discussion from a psychoanalytic point of view in a psychoanalytic journal.

FINANCIAL REPORT \$3416 = €3100

Study 1: 258 participants, completed and budget spent

- 258 participants * €9/ptcp = €2,322
- balance: 3,100-2,333 = €778 - at this moment August 5, 2017

Study 2: 3 clinical groups (OCD, eating disorders, agoraphobia/hypochondria) with 60 participants each + 100 controls = 280 participants

- spent: 42 participants*€10/ptcp = €420
- planned: 238 participants * €10/ptcp = €2,380 of which €358 are taken from the IPA budget
- balance: 778 - 420 - 358 = €0

FURTHER AGENDA

- **STUDY 2:** Clinical Population Study: 4 clinical populations (OCD, eating disorders, agoraphobia, hypochondria) as well as controls will be tested with the same methodology + adapted clinical questionnaires. We expect more relational choices on the GeoCat (**#Rel**), less ReSo and a higher tendency to avoid phonological ambiguity in the linguistic task, correlated with the severity of their clinical traits. Ambulatory and residential psychiatric/mental health care centers have been contacted and informed about the study. Testing will take place hopefully starting in October (depending on the agenda of the institutions).
- **Giulia Olyff** will continue her PhD-research on a voluntary basis. In October 2017 we will have the help of an international intern, **Anastasia Foglia** from La Sapienza University in Rome, who will assist us with the research for 500 hours.
- We will also do the same testing in a population of psychotic participants, where we expect exacerbated parameters on primary process mentation as compared to controls.