



THE UNIVERSITY *of* EDINBURGH

Edinburgh Research Explorer

Compulsive foreign language syndrome

Citation for published version:

Beschin, N, de Bruin, A & Della Sala, S 2016, 'Compulsive foreign language syndrome: A clinical observation not a mystery', *Cortex*, vol. 81, pp. 276-277. <https://doi.org/10.1016/j.cortex.2016.04.020>

Digital Object Identifier (DOI):

[10.1016/j.cortex.2016.04.020](https://doi.org/10.1016/j.cortex.2016.04.020)

Link:

[Link to publication record in Edinburgh Research Explorer](#)

Document Version:

Peer reviewed version

Published In:

Cortex

General rights

Copyright for the publications made accessible via the Edinburgh Research Explorer is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy

The University of Edinburgh has made every reasonable effort to ensure that Edinburgh Research Explorer content complies with UK legislation. If you believe that the public display of this file breaches copyright please contact openaccess@ed.ac.uk providing details, and we will remove access to the work immediately and investigate your claim.



Compulsive foreign language syndrome: A clinical observation not a mystery

Nicoletta Beschin¹, Angela de Bruin² and Sergio Della Sala^{2*}

- 1) Clinical Neuropsychology Unit, Rehabilitation Department, ASST Valleolona, Somma Lombardo Hospital (Varese), Italy
- 2) Human Cognitive Neuroscience, Psychology, University of Edinburgh, Edinburgh, UK

***Correspondence to:**

Sergio Della Sala
Human Cognitive Neuroscience
University of Edinburgh
7 George Square
Edinburgh EH8 9JZ
Ph: +44 (0)131 651 3242
Fax: +44 (0)131 651 3230
<sergio@ed.ac.uk>

Key words: Compulsive behaviour, Foreign language syndrome, Secondary mania, Xenoglossy.

An Italian 50 year old right-handed man, JC, with 17 years of education affected by the consequences (obstruction hydrocephalus, surgically treated with a shunt, and brain stem vascular encephalopathy) of mega dolicho basilar artery anomaly, abruptly started to speak French even though his knowledge of the language was only cursory. He had no personal or family history of psychiatric disorders; he had always been an upright person, very conscientious in his job. He did not show sensory or motor deficits and no impairments of the cranial nerves. At onset he showed signs of depression which faded with time without therapy.

He had superficially learned French at school, used it in his 20's due to a fling with a French girl but he has not spoken it for about 30 years. In his professional life he used English as his second language. Before brain damage he never manifested a particular attachment to French culture or French cuisine. His accent is not due to dysarthria and he speaks polished and correct Italian; his mother tongue. However, he now states that French is his preferred language refusing to speak in Italian spontaneously.

Similar cases have been reported in the popular press¹ and discussed as improbable cases of cryptomnesia (Flournoy, 1900) or xenoglossy (Richet, 1905). Hints can also be gleaned from the classics where they are mentioned *in passim* as literary comments (Chaucer, ca 1387; Melville, 1891). However, none have been formally assessed in a clinical setting.

JC's French is maladroit and full of inaccuracies, yet he speaks it in a fast pace with exaggerated intonation using a movie-like prosody and posing as a typical caricature of a French man. His French vocabulary is reduced and he commits several grammatical errors but he does not speak grammalet or gibberish and never inserts Italian terms in his French sentences. He uses French to communicate with everybody who is prepared to listen; he speaks French with his bewildered Italian relatives, with his hospital inmates, with the consultants; he spoke French even in front of the befuddled Committee deciding on his pension scheme. He claims that he cannot but speak in French, he believes that he is thinking in French and he longs to watch French movies (which he never watched before), buys French food, reads French magazines and seldom French books, but he writes only in Italian. He shows no irritation if people do not understand him when he speaks in French.

His score in the Italian version of the Boston Naming Test is 60/60, he performs verbal fluency tests in Italian well over the median of his matched control group, he is very fast and does not

show problems in word retrieval. However, when assessed with Italian tests, he first attempts to answer in French even though he uses generic terms, like ‘vegetable’ for ‘asparagus’ (he does so also in spontaneous conversation); when asked again he responds correctly in Italian. He shows persistent episodic memory impairments (including forgetting of autobiographical episodes from the last three years, whereas his autobiographical memory for the past is spared) but performs well and fast on a range of other cognitive tests including those assessing executive functions (see Table 1). He never reported hallucinations and delirium was never observed. However, he presents with some delusions of grandeur, sleep disturbances and has some compulsive behaviours: he buys unnecessarily large quantities of objects (e.g. needing two hangers he bought 70) and he makes tons of bread to his wife’s chagrin. He also shows unjustified euphoria (which he labels *joie de vivre*): for example in the morning he opens the windows and shouts *bonjour* stating that it is a wonderful day. He manifests signs of social disinhibition, for example proposing to organise a singing tour for his daughter’s teenage friend or offering French lessons to his neighbours. These symptoms are indicative of secondary mania (Santos, Caeiro, Ferro, & Figueira, 2011) and were drug-resistant.

----- Insert Table 1 about here -----

He did not recover in over four years, his urge to speak French remains unchanged (although his gross caricatural attitude reduced slightly) as did his other compulsive behaviours, contained by means of a token economy rehabilitation programme. His relatives failed to convince him to stop and speak Italian instead as he always had; now they accept that he feels compelled to speak French and “act French”.

JC’s compulsion to speak French cannot be framed as a foreign accent syndrome as he does not speak Italian with a French accent (and he is not dysarthric); he is not a polyglot aphasic, indeed he does not show language impairment in Italian. He seems coerced to speak French even if his knowledge of French is rather superficial. Perhaps, as early writers and modern popular press have handed down, previous, albeit shallow, knowledge of a foreign language, apparently long forgotten, can be switched on by a brain insult and speaking it becomes a compulsive behaviour. His compulsion is coupled with a series of other compulsive behaviours within a frame of normal executive performance on off-the-shelf tests. His compelling urge to speak and act French could be a rare addition to the clinical picture of chronic secondary mania following brain damage.

Footnote 1

¹<http://www.dailymail.co.uk/news/article-2938554/Chinese-teacher-wakes-speaking-English-no-Chinese.html>

<http://www.independent.co.uk/news/uk/home-news/englishman-wakes-up-speaking-welsh-after-stroke-8431970.html>

<http://thiswonderfulword.com/2014/09/18/xenoglossy/>

References

Chaucer, G. (ca 1387). *The Man of Law's Tale*. In *The Canterbury Tales* (Ed J. Mann, Penguin Classics, 2005). London: Penguin Books.

Flournoy, T. (1900). *Des Indes à la planète Mars, Étude sur un cas de somnambulisme avec glossolalia*. Paris et Genève: Éditions Alcan et Eggimann.

Melville, H. (1891). *Moby-Dick; or, The Whale*. New York: Harper and Brothers.

Richet, C. (1905). Xenoglossie: L'écriture automatique en langues étrangères. *Proceedings of the Society for Psychological Research*, 19, 162–194.

Santos, C.O., Caeiro, L., Ferro, J.M., and Figueira, M.L (2011). Mania and stroke: a systematic review. *Cerebrovasc Dis.*, 32(1):11-21.

Table 1. Neuropsychological assessments of JC, at one month post onset and two and four years later. References for the tests (Italian version) are given in the Supplementary material.

Test (score range)	Neuropsychological Assessment		
	1 st (1m post onset)	2 nd (2y post onset)	3 rd (4y post onset)
MMSE (0-30)	24*	28	29
Raven Matrices (0-36)	29	33	33
Verbal Judgements (0-60)	47	50	52
F.A.B. (0-18)	12*	17	18
Weigl test (0-15)	15	15	16
Cognitive Estimations (42-0)	13	6	7
Attentional Visual Search (0-50)	48	47	48
Trail Making A (0-∞)	38	40	40
Trail Making B (0-∞)	93	111	100
Trail Making B-A (0-∞)	55	71	60
Token Test (0-36)	34	36	36
Phonological Fluency	32	33	35
Semantic Fluency	36	31	32
Rivermead-3 (0-100)	54*	61*	59*
Corsi Span	5	5	5
Digit Span	5	5	5
Rey Complex Figure (copy) (0-36)	36	36	36
Rey Complex Figure (delay) (0-36)	4*	5,5*	5,5*
Rey Word List (immediate) (0-75)	22*	28*	26*
Rey Word List (delay) (0-15)	4*	6*	4*
Prose Memory (immediate) (0-8)	3.3*	3*	3.3*
Prose Memory (delay) (0-8)	0*	0*	0*
Object use (0-14)	14	14	14
Intransitive Gesture Imitation (0-72)	72	72	72
Reading sentences (0-14)	14	14	14

*Score below cut-off, considering JC's age and education.

Supplementary material: references for tests in Table 1.

MMSE: Magni E., Binetti G., Bianchetti A., Rozzini R., and Trabucchi M. (1996). Mini-mental state examination: a normative study in Italian elderly population. *European Journal of Neurology*, 3: 198-202.

RAVEN MATRICES: Basso A., Capitani E., and Laiacona M. (1987). Raven's coloured progressive matrices: normative values on 305 adult normal controls. *Functional Neurology*, 2: 189-194.

VERBAL JUDGEMENTS: Spinnler H. and Tognoni G. (Eds.) (1987). Standardizzazione e taratura italiana di test neuropsicologici. *The Italian Journal of Neurological Sciences*, suppl. 8: 1-120.

F.A.B: Isella V., Piamarta F., Consoli T., Villa M.L., Forapani E., Russo A. and Nichelli P. (2005). The Frontal Assessment Battery (FAB): normative values in an Italian population sample. *Neurological Sciences*, 26: 208-116.

WEIGL TEST: Laiacona M., Inzoghi M.G., De Tanti A., and Capitani E. (2000). Wisconsin Card Sorting Test: a new global score, with Italian norms, and its relationship with the Weigl sorting test. *Neurological Sciences*, 21: 279-291.

COGNITIVE ESTIMATIONS: Della Sala S., MacPhearson S.E., Phillips L.H., Sacco L., and Spinnler H. (2003). How many camels are there in Italy? Cognitive estimates standardised on the Italian population. *Neurological Sciences*, 24: 10-15.

ATTENTIONAL VISUAL SEARCH, TOKEN TEST and PROSE MEMORY (IMMEDIATE AND DELAY): Spinnler H. and Tognoni G. (Eds.) (1987). Standardizzazione e taratura italiana di test neuropsicologici. *The Italian Journal of Neurological Sciences*, suppl. 8: 1-120.

TRAIL MAKING A: Giovagnoli A.R., Del Pesce M., Mascheroni S., Simoncelli M., Laiacona M., and Capitani E. (1996). Trail Making Test: normative values from 287 normal adult controls. *The Italian Journal of Neurological Sciences*, 17(4): 305-309.

PHONOLOGICAL FLUENCY and REY WORD LIST (IMMEDIATE AND DELAY): Carlesimo G.A., Caltagirone C., Gainotti G. and the MDB Group. (1996). The Mental Deterioration Battery: Normative data, Diagnostic Reliability and Qualitative Analyses of cognitive impairment. *European Neurology*, 36(6): 378-384.

SEMANTIC FLUENCY: Novelli G., Papagno C., Capitani E., Laiacona M., Vallar G., and Cappa S.F. (1986) *Tre test clinici di ricerca e produzione lessicale*. *Archivio di Psicologia, Neurologia e Psichiatria*, 47(4): 477-506.

RIVERMEAD-3: Wilson B.A., Greenfield E., Clare L., Baddeley A., Cockburn J., Watson P., Tate R., Sopena S., Nannery R., and Crawford J.R. (2013). *RBMT-3. Rivermead Behavioural Memory Test. Third Edition*. Firenze: Giunti Organizzazioni Speciali.

CORSI SPAN and DIGIT SPAN: Orsini A., Grossi D., Capitani E., Laiacona M., Papagno C., and Vallar G. (1987). Verbal and spatial immediate memory span: Normative data from 1355 adults and 112 children. *The Italian Journal of Neurological Sciences*, 8: 539-548.

REY COMPLEX FIGURE (DELAY AND COPY): Caffarra P., Vezzadini G., Dieci F., Zonato F., and Venneri A. (2002). Rey-Osterrieth Complex Figure: Normative values in an Italian population sample. *Neurological Sciences*, 22: 443-447.

OBJECT USE: De Renzi E., Pieczuro A., and Vignolo L.A. (1968). Ideational Apraxia. *Neuropsychologia*, 6: 41-52.

INTRANSITIVE GESTURE Imitation: De Renzi E., Motti F., and Nichelli P. (1980). Imitating gestures. A quantitative approach to ideomotor apraxia. *Archives of Neurology*, 37: 6-10.

READING SENTENCES: Capasso R. and Miceli G. (2001). *Esame Neuropsicologico per l'afasia – ENPA*. Springer, Milano.