

Call for papers

to be presented in a panel on:

Automatic and controlled processes in language

(AISC 2016 International Conference, Torino, 24-26 November 2016)

It is widely agreed that information processing follows a dual path, cognitive contents being entrusted to *automatic* and *controlled* mechanisms (Schneider & Shiffrin 1977, Shiffrin & Schneider 1977, 1984):

Automatic processing is generally a fast, parallel, fairly effortless process that is not limited by short-term memory capacity, is not under direct subject control, and performs well-developed skilled behaviors. [...] *Controlled* processing is often slow, generally serial, effortful, capacity-limited, subject-regulated, and is used to deal with novel or inconsistent information. [...] all tasks are carried out by complex mixtures of controlled and automatic processes used in combination. (Shiffrin & Schneider 1984)

The reason for the existence of double-modality processing can be regarded as adaptive in nature:

Dual processing mechanisms would likely not have evolved unless there were survival advantages to having both modes of processing. [...] Automatic and controlled processing are qualitatively different forms of processing that provide complementary benefits. [...] A single process alone cannot provide both the fast learning of controlled processing and the high speed parallel robust processing of automatic processing. [...] If a task requires the coordination of many sensory/motor inputs, the slow, resource-limited nature of controlled processing will be a serious limitation. Despite taking a long time to acquire, automatic processing has the advantages of being robust under stress, leading to long-term retention of associated skills, and allowing many processes to occur in parallel. (Schneider & Chein 2003)

Many other studies point out that controlled processes of our attentional system are strongly affected by limitations, while less limitations arise if, in parallel with controlled processes, some cognitive tasks are carried out automatically. For example, Dux et al. (2006) show that when competing stimuli overlap in central executive processes, only one at a time can be dealt with. Sigman & Dehaene's (2008) work on so-called "Psychological Refractory Period" shows the inhibition or postponement of the second of two simultaneous tasks. Lien et al. (2006) signal phenomena of Divided-Attention Deficit, i.e. decreasing performances when attention is brought to two simultaneous tasks.

As for language processing, it has been noticed that

If utterances displayed no differential patterns of prominence and, correspondingly, different informativity degrees, sentence processing would be too demanding for the receiver, as he would be compelled - via extra inferential operations - to calculate the speaker's intentions in the attribution of prominence statuses to different sentence units. This would tremendously slow down decoding processes and the general unfolding of the conversation. A communication system like this would by no means adapt to the needs of language users, and, most importantly, to the speed at which information transaction takes place in verbal interactions. (Givón 2002)

The respective role of automatic and controlled processing has been systematically (though somewhat rigidly: see Mazzone and Campisi 2013) addressed by Levelt (1989) in his

comprehensive account of language production. But the issue has also been addressed at a finer grain in a number of specific linguistic domains: from second language acquisition (Schmidt 1995) to gesture (Ekman & Friesen 1969; Kendon 2004; de Ruiter 2007). With regard to pragmatic understanding, wholly automatic and partially controlled accounts have been compared with each other (e.g., Recanati 2004; 2007; Carston 2007; Mazzone 2013a; 2013b; Rubio-Fernández 2013). With regard to Saussure’s theory of language, Fadda (2013) has shown how important it is to distinguish between the different degrees of consciousness (and automaticity) involved. It has also been proposed (Lombardi Vallauri 2014 and Lombardi Vallauri & Masia 2015; some experimental evidence in Tiemann et al. 2011) that information structure categories such as Presupposition vs. Assertion and Topic vs. Focus can induce the receiver to devote the most convenient kind of attention and processing effort to parts of the utterance which enjoy different degrees of previous knowledge. The recourse to automatic and controlled processes during the treatment of verbal stimuli has been measured (Hahne & Friederici 1999) by means of EEG, showing that first sentence structure recognition is mostly automatic, and followed by controlled semantic processing.

Beside these and other contributions, much work remains to be done in order to clarify the relations between automatic and controlled processes on the one side, and the management of linguistic categories during communication on the other. The proposed panel is aimed at gathering contributions focusing on all levels of language structure: phonology, morphology, syntax, semantics and (micro/macro)pragmatics. Its topics may include (but are not necessarily restricted to) the following:

- What are the correlates/advantages of automatic and controlled processing for the addressee of a linguistic message, and for the source?
- Is automatic-controlled in general, and in language in particular, to be regarded as a binary discrete category, or as a continuum?
- What are the categories of “classical” linguistic theory that can be re-interpreted in terms of dual processing?
- Does automaticity interact with patterns of grammaticalization in languages’ diachrony?
- Can markedness phenomena be explained in terms of the breaking of automaticity, causing controlled processing of units normally entrusted to automatic processing?
- Do strategic uses of language necessarily involve controlled processing?
- Specifically, are pragmatic categories such as “implicature” or “presupposition” somehow related to a specific mode of processing (automatic/controlled)?
- To what extent are different models of linguistic (and pragmatic) processing compatible with current views on automatic/controlled processing?

Both theoretical/speculative and experimental studies are welcome. The accepted contributions will be proposed for reviewed publication in a dedicated issue of the *Italian Journal of Cognitive Sciences*.

Abstracts of no more than 10.000 characters + bibliography should be submitted by 10 September 2016 to one of the email addresses below:

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Important dates:

Abstract submission deadline: **10 September, 2016**

Communication of acceptance: **1 October, 2016**

Submission of camera-ready version of the abstract: **1 November, 2016**

AISC 2016 International Conference: **24-26 November, 2016**

Accepted participants should register to the AISC 2016 International Conference:

<http://www.aisc-net.org/home/2016/03/05/aisc-2016-torino/>

References

- Carston, Robyn, 2007. *How many pragmatic systems are there?*, in Maria Jose Frapolli (ed.), *Saying, Meaning, Referring. Essays on the Philosophy of François Recanati*, Palgrave, New York, 1–17.
- de Ruiter, Jan P., 2007. *Postcards from the mind. The relationship between speech, imagistic gesture and thought*, in *Gesture*, n. 7, 21–38.
- Dux, Paul E., Ivanoff, Jason, Asplund, Christopher L., Marois, René, 2006. *Isolation of a Central Bottleneck of Information Processing with Time-Resolved fMRI*, in *Neuron*, n. 52, 1109-1120.
- Ekman, Paul, Friesen, Wallace, 1969. *The repertoire of non-verbal behaviour: categories, origins, usage and coding*, in *Semiotica*, n. 1, 49–98.
- Fadda, Emanuele, 2013. *'Sentiment': entre mot et term. Quelques notes sur le travail et la langue de Ferdinand de Saussure*, in *Cahiers Ferdinand de Saussure*, n. 66, 49-65.
- Givón, Talmy, 2002. *Bio-Linguistics. The Santa-Barbara lectures*, John Benjamins, Amsterdam/Philadelphia.
- Hahne Anja & Friederici Angela D., 1999. *Electrophysiological Evidence for Two Steps in Syntactic Analysis: Early Automatic and Late Controlled Processes*, in *Journal of Cognitive Neuroscience* 11(2), 194-205.
- Kendon, Adam, 2004. *Gesture. Visible action as utterance*. Cambridge University Press, Cambridge.
- Levelt, Willem, 1989. *Speaking: from intention to articulation*, MIT Press, Cambridge, MA.
- Lien, Mei-Ching, Ruthruff, Eric, Johnston, James C., 2006. *Attentional Limitations in Doing Two Tasks as Once*, in *Current Directions in Psychological Science*, Vol. 15, No. 2, 89-93.
- Lombardi Vallauri, Edoardo, 2014. *From the knowledge of language to the knowledge of the brain*, in *Italian Journal of Cognitive Sciences*, n. 1, 1, 131-161.
- Lombardi Vallauri E. & Masia V., 2015. *Cognitive Constraints on the Emergence of Topic-Focus Structure in Human Communication*, in A. Chiera and V. Ganfi (eds.), *Immagine e pensiero. Bilanci nelle scienze cognitive attuali*, Roma-Messina, Corisco, pp. 180-2014.
- Mazzone, Marco, 2013a. *Automatic and controlled processes in pragmatics*, in Capone, Alessandro et al. (eds.), *Perspectives on linguistic pragmatics*, Springer International Publishing, 443-467.
- Mazzone, Marco 2013b. *Attention to the speaker. The conscious assessment of utterance interpretations in working memory*, in *Language & Communication*, 33, 106-114.
- Mazzone, Marco, Campisi, Emanuela, 2013. *Distributed intentionality: a model of intentional behavior in humans*, *Philosophical Psychology*, n. 26, 267–290.
- Recanati, F., 2004. *Literal Meaning*, Cambridge University Press, Cambridge.
- Recanati, François, 2007. *Reply to Carston*, in Maria Jose Frapolli (ed.), *Saying, Meaning, Referring. Essays on the Philosophy of François Recanati*, Palgrave, New York, 49–54.
- Rubio-Fernández, Paula, 2013. *Associative and inferential processes in pragmatic enrichment: The case of emergent properties*, in *Language and Cognitive Processes*, n. 28, 6, 723–745
- Schmidt, Richard (1995). *Consciousness and foreign language learning: A tutorial on the role of attention and awareness in learning*, in Richard Schmidt (ed.), *Attention and awareness in foreign language learning*, University of Haway at Manoa, 1-64.
- Schneider, Walter. & Shiffrin, Richard M., 1977. *Controlled and automatic human information processing: I. Detection, search, and attention*, in *Psychological Review*, n. 84, 1, 1-66.
- Schneider, Walter & Shiffrin, Richard M., 1984. *Automatic and Controlled Processing Revisited*, in *Psychological Review*, n. 91, 2, 269-276.

- Shiffrin, Richard M. & Schneider, Walter, 1977b. *Controlled and automatic human information processing: II. Perceptual learning, automatic attending, and a general theory*, in *Psychological Review*, n. 84, 2, 127-190.
- Schneider, Walter & Chein, Jason M., 2003. *Controlled & automatic processing: behavior, theory, and biological mechanisms*, in *Cognitive Science* 27, 525-559.
- Sweller, John, 2003. *Evolution of Human Cognitive Architecture*, in Sweller, John & Ross, Brian H. (eds.), *The psychology of learning and motivation: Advances in research and theory*, Vol. 43, New York, NY, US: Elsevier Science, 215-266.
- Sigman M. & Dehaene S., 2008, *Brain Mechanisms of Serial and Parallel Processing during Dual-Task Performance*, in *Journal of Neuroscience*, n. 28(30), 7585-7598.
- Tiemann, Sonja, Schmid, Mareike, Rolke, Bettina, Ackermann, Hermann, Knapp, Julia, Beck, Sigrid, 2011. *Psycholinguistic Evidence for Presuppositions: On-line vs. Off-line Data*, in Reich, Ingo, Horch, Eva, Pauly, Dennis (eds.), *Proceedings of Sinn & Bedeutung 15*, Saarbrücken, Universaar - Saarland University Press, 581-597.