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INTUITION IN THE PSYCHOLINGUISTIC PARADIGM. AN APPROACH TOWARD A CONFIRMATION OF THE STRATEGY OF INTUITION AS A COGNITIVE MECHANISM

MARTA BOGUSŁAWSKA-TAFELSKA

1. Introduction

The scholarly challenge to demystify the notion of intuition in the psycholinguistic considerations over human language behaviour was the direct inspiration for the analysis presented below. The task is the more complex as, to discuss intuition as a homologous cognitive strategy, one needs well adjusted terminology and a conceptual field that can enable an analytic account; to avoid being accused of parascientific charlatanism, one faces a necessity to introduce the strategy of intuitive thinking into the area of linguistic inquiry, which seems to be an urgent task, as the references to intuition are numerous in the contemporary psycholinguistic research. While searching the qualifying parameters and conditions of intuition as a mental mechanism, one comes to the conclusion that the issue under current discussion constitutes one of 'Leibniz's gaps', that is, the scientific loopholes which, to date, have not been filled with specialist documentation (cf. Cummins and Cummins, 2000:4).

For a long time, intuition belonged to the repertoire of folk science, which reflected human commonsense interpretations of the world around; folk psychology was explaining the behaviour of humans, while naive physics dealt with people's, often described as intuitive, judgements about the material aspects

of life (Wilson and Keil, 1999:317-319, 578). *The MIT Encyclopaedia of the Cognitive Sciences*, while outlining the foundations of folk science, provides a straightforward commentary: 'Adults' naive conceptions about how the world works appear to be simplistic, inconsistent and situation-specific' (cit. Wilson and Keil, 1999:578). According to critics of folk science, humans possess intuitive mental models which lead to erroneous perceptions of the reality. Folk psychology introduced such methodological tools as intentions, desires, expectations, preferences, hopes and fears, which were contrasted with the methodology of scientific psychology, based on systematic, formal and experimental material.

It has to be noted at this point that the concept of intuition, as referred to in the contemporary psycholonguistic studies, has undergone a face lift, as a result it is no longer stigmatised with the irrationality of folk science. Hence, the mechanism of intuition as discussed in psycholinguistic analyses, is not a folk psychology measure, but constitutes a frequently and a bit a priori used psychological concept. Prior to the attempt at the psycholinguistic localisation of intuition, the conceptual roots of the notion in question will be detected in this paper, with special attention given to Carl Jung's psychology of the human mental deep structure and its mechanisms. The postulate organising the current analysis is that, first, intuition does not necessarily belong to folk psychology irrational concepts; second, that the cognitive strategy of intuition enables one to execute the information out of the unconscious, deep structure of the human mind, and thus constitutes one of the genuinely cognitive mechanisms detected in humans.

2. The psychoanalytical origin of the concept

The interdisciplinary scope of interest of psycholinguistics encompasses relevant human mental system explorations undertaken by traditional psychoanalysis. The Greek word 'psyche', meaning 'the soul', while prefixing a number of sciences (psychology, psychoanalysis or psycholinguistics being among them), constitutes a unifying indicator of the attention focus on the human mental organisation and processing. Hence, looking for the origin of the concept of intuition as a mental mechanism in psychoanalysis seems a 'natural consequence' of the very affinity between these sciences.

Carl Jung, in his dynamic conceptions of the human psyche, assigned the special place to intuition, which was regarded as a channel through which a person communicates with his/her deep structure of the mental apparatus named 'self'. Jung's intuition is a sixth sense. Furthermore, it is one of the four divergent functions of the consciousness, specialised to receive and process life experience. Intuition completes Jung's typology model, being complementary to the sensual,

logical and emphatic ways of information processing. A person possesses all four functions of the psyche, though unequally developed and unequally active. On the basis of this typology, Jung categorised the human species into several groups, one of them being the group of people whose primary, dominating perceptual function of the psyche is intuition (cf. Pascal, 1998).

The human psyche, as perceived by psychoanalysts, was in its larger part composed of pre-linguistic, complex and abstract in nature knowledge systems, to which the access through reason and sensual activity was obstructed. As intuitive processes were thought to orchestrate the activity of the two hemispheres, in consequence, synchronising larger than normally mental regions, intuition started to condition the successful and highly efficient mental activity of humans. What Jung aimed to achieve was an attempt to rationalise and lever up the value of intuitive processing, and ultimately, to include intuition into the repertoire of scientifically recognized mental mechanisms. Being sceptical towards any systemic generalizations of what he was observing, Jung managed only to start the discussion over the very issue (cf. Pascal, 1998). However, the psychoanalyst did not, in fact, translate his observations into a formal, scientific code (one of the commonsense reasons for it was that the advance within psychoneurology and cognitive psychology started to peak after the scholar's death).

3. The psycholinguistic credentials

Intuition as a psychological concept inherited from the psychoanalytic research, did not enjoy a status equal to other mental processes in cognitive science. As a result, the contemporary growing scholarly interest in the issue and frequent references in psycholinguistic studies are surprising, and suggest that a particular conceptual gap exists and has to be recognised. The popularity of the concept of intuitive thinking has lengthy documentation in the psycholinguistically-oriented translation studies. Paul Kussmaul is one of the linguists, who in the 80's and 90's, while implementing into his research the method of Think-aloud protocols to study translation strategies of translation trainees, openly attributed the use of intuitive thinking to his subjects. Nevertheless, the linguist does not value the strategy much, especially in context of professional expertise. While commenting on the use of intuition, Kussmaul admits '(..) intuition will have to be counterbalanced by reflection' (cit. Kussmaul, 1995:3). In other words, the scholar sees the need to rationalise every professional decision of expert translators by means of an objective, specialist argumentation. Intuition may be essential in the creative process itself but not in the process of expert justification and verification of the procedure. It may be added at this point that my own TAP

sessions, undertaken to verify the findings of psycholinguisitcally-minded scientists in the field of translatology, brought to light the existence of similar cognitive mechanisms in the translation process of the subjects. What is interesting, the subjects of the experimentation (five Polish university students of English Philology) when activating their intuitive thinking were producing defective translations, which led me to the assumption that non-intuitive, professional choices are related to a translator's professional competence, while intuitive decisions seem to reflect competence gaps, or a subject's psychological profile problems (i.e. a lack of self-awareness and self-confidence) (cf. Bogusławska-Tafelska, 2001:11-24). Below, it will be argued that an accusation of intuition being earmarked for non-competence is a conclusion that is too simplified as it is based on traditional premises.

However recognisable is the strategy of intuition in the linguistic processing, to date no effort has been undertaken to specify the cognitive basis of this mechanism. George Mandler is not the only linguist to have noticed a restricted sense in which the human mental architecture has been discussed recently, that is, as equated with the conscious processes or those that are partly observable through linguistic activity. In the meantime, conscious or partly conscious processes constitute but a minor fraction of what is happening in the human cognitive system during any mental operation, language use included (cf. Mandler, 1984:52-71). In order to account for the architecture and processing of the human mind as a unified system complete in itself, it is inevitable to incorporate the deep structures of the mental system, which are beyond the state-of-the-world knowledge representations; the state-of-the-world knowledge, in Mandler's model, contains sets of schemas and other informational sequences that have been recently updated1, thus, remain in a state of current activation (being relatively easily retrievable) (cf. Mandler, 1984:71). To reflect the human mind specificity and complexity, a psycholinguistic insight has to encapsulate the inactive, foundational, however still functionally potent mental contexts. Intuition as a cognitive strategy may be the transmitting mechanism which goes to the core of the cognitive system and brings to surface not even preconscious but fully unconscious, seemingly incidental and arbitrary material, which in fact belongs to a person's cognitive storage and which, through highly complex, supramodular operations constitutes a rational response provided by a person's cognitive system in the course of a problem-solving process. As the role of intuitive thinking is to dive into the inactive, deep-frozen cognitive data through unrepeatable, hyper complex cognitive processes and neurocognitive links, the

1 These data sequences must have recently been put into operation and capitalised on in some cognitive task. In consequence, they constitute the 'operational', activated cognitive material.

first reaction of the external experimenter or observer is that intuition escapes rational account, being irrational as such. The fact that an observer can perceive no logical interconnection between the intuitive functional dynamics of the system and the task itself does not exclude the possibility that such an interconnection exists. On the contrary, the cognitive limits that demarcate the process of monitoring (both the internal and the external one) create a scientific/experimental snag here.

3.1. Intuition and creative cognition

Creativity refers to the cognitive processes of going beyond safe, conventional thought routes, and coming up with novel solutions to the problem which is currently on the agenda. The mental-psychological conditions of creative potential (as put forth in the field literature, and investigated from various viewpoints) are numerous. Namely, in neuropsychology it is believed that creativity means a fluent synchronisation of the two hemispheres of the brain, together with the brain's potential of a plastic synaptic and neural policy. As concerns psychological research, creative behaviour is said to depend on a person's mental potential of mediating between the visual, verbal and abstract codes; thus, novel ideas may pop up in a novel, surprising cognitive form as contrasted with the ignition stimulant, i.e. in the form of a mental scene or sound. The mediation between one's creative behaviour and one's consciousness is believed to be possible through emotions (cf. Maruszewski and Ścigała, 1998). However, it seems that the intuition mechanisms are included in the creative process, because, firstly, a similarly complex brain activation is observed in both cases: in the intuitive thinking and in the creative behaviour; secondly, because next stages of the creative procedure can hardly be reported by the human agent; self-monitoring and self-confessions fail to reconstruct the actual mental scenario that led to a creative outcome. Usually, people who come up with a novel solution or idea admit not to realise either the inspiration or the 'source' of such an outcome, as if their creative behaviours were 'intuitive' behaviours.

Such a fragmentary overview of the cognitive bases of creativity allows one to realise how natural and justified an accusation of irrationality is, when intuitive (meaning novel, unconventional and seemingly irrelevant) outcome is observed and put to the formal evaluation. If an external observer (e.g. an experimenter) experiences the cognitive phase of the epistemic closeness, he/she will judge the creative/intuitive solution, obtained by the problem-solving person, from the point of view of the appropriateness and agreement of this idea to what his/her cognitive

storage of conventional solutions will offer[2]. In other words, finite and determined expert competence of an observer is likely to question and put to test any untypical, controversial outcome of the problem-solver, especially if the cognitive origin of such a solution does not accompany it. Any nonuniform, unique feedback, the logical, sequential nature of which cannot be detected back, which is the case with reference to intuitive thinking, will be deprived of the cognitive index. This assessment results form the natural clash of the two contrasting cognitive stances[3], namely the phase of the epistemic openness and the phase of the epistemic closure (ibid.). This study, however, is an attempt to show the genuinely cognitive and equally vital status of the strategy of intuition among other mental mechanisms. The postulate is that intuition is a functional mechanism of the epistemic openness phase, which enables cognitive creativity. Going beyond safe, non-creative thought routs and entering primary, deep cognitive layers in search for best solutions is possible only within a specific moment in the cognitive pendulum. In the sections below, two connected mental phenomena will be discussed, which seem to rely on the intuitive processes.

3.2. Expectation structures and divergent thinking

Several of the problem-solving stages, as observed in the human mental activity, are controlled by mental constructs labelled as expectation structures. These are cognitive, non-specific visions one has with reference to the optimal shape of one's cognitive outcome. These panoramic and imprecise (one would say 'intuitive') recognitions a problem-solving person experiences while working towards a cognitive goal, on the one hand, help to direct the problem-solving programs towards a desired goal; on the other hand, they serve as a monitoring mechanism. A problem-solver, going back to what has already been done, 'intuitively' knows which of the grasped outcomes are worth-preserving and which should be improved. The ideal vision of the solution wanted and expected helps to polish the very solution springing up along the problem-solving process. Generally speaking, psycholinguists who give account of the existence of the expectation structures, have not pointed to the origin of these peculiar mental constructs. A problem-solver feels them and acts according to their directives, but is hardly able to discuss their nature. Intuition, as a cognitive, dynamic link between conscious and unconscious mental structures seems a reasonable proposal here.

2 The cognitive phase of the epistemic closeness refers to a mental process of blocking any modifications within the cognitive representation. Rather than letting in new information or producing new solutions, the system is reshuffling the data already gathered in it. The opposite, complementary phase, enabling creative outcomes, is the phase of the epistemic openness (cf. Maruszewski and Ścigała, 1998:89).

3 Stances which are represented by the observed and the observer.

In addition, the notion of the expectation structures seems to support the scientific proposal of the virtual nature of the human mind storage. While being preoccupied with a particular cognitive task, a person's cognition reaches the most fundamental virtual reality of the mind, in search for the wanted solutions. The virtual data form the virtual structures reflecting the best response available. This feedback of the cognitive system, in the form of the expectation structures, seems to be possible through intuitive thinking. Paul Kussmaul expresses such an opinion as well. To account for the creative process stage of gathering ideas, the scholar introduces a notion of 'divergent thinking', being a mental process of moving aside the cognitive path of the creative procedure itself, and immersing into the state of cognitive relaxation, when the mental system is generating free associations and preliminary forms, that in the subsequent phase of illumination will be verified. Kussmaul quotes Hand Honig who defines divergent thinking as 'an interplay between cognition and intuition' (cf. Kussmaul, 1995:47).

In short, intuition appears to function as a mental mechanism bridging the conscious and unconscious phases of the problem- solving process. Intuition brings into the conscious attention information, which is deeply-stored in the cognitive system with divergent thinking being the most convenient stage for intuitive mechanisms to take hold. Intuitive processes participate in the crystallisation of the 'expectation structures', which as a part of the problem-solving procedure, lead to creative behaviour of humans.

4. The inability to make intuitive decisions

While analysing the unfolding intuitive behaviour of language users, one will, sooner or later, get confronted with the need to interpret the opposite situation; namely, if a person is not capable of intuitive thinking, say, when an experimentation subject maintains he/she can provide no solution to some linguistic problem as 'nothing comes to his/her mind', can it mean a limited or no competence on the part of this person? In other words, if intuition is impossible, does this deficiency but impose a lack of underlying cognitive information base? A commonsense analysis could be that the larger the mental source of references at one's disposal, the more complex and less detectable the thought pathways which constitute the cognitive system's response to a given problem. It seems that intuition is employed by the system in case of a large, multi-layer and multi-perspective declarative storage, the relatively dynamic orchestration and selection of which is highly problematic in terms of conscious cognition. Speculative as these suggestions are at this stage of the research into the human cognition, it has already been psychologically established that the human subconsciousness (or nonconsciousness, depending on the terminology

used) is far more potent and capacious than consciousness. All the surplus cognitive material and processing, which cannot be handled by the system, is dealt with beyond the consciousness threshold. Later on, during a problem solving task, both the state-of-the-world knowledge representations and the supplementary, unconscious material representations compose the mental database within which a solution may be sought.

5. Intuition in professional expertise

The above proposed thesis, which locates intuition among the genuinely cognitive mechanisms, presupposes another assumption, namely, that professional expertise can be characterised by high intuitive potential. After all, it is experts who are equipped with the most complex, layered declarative knowledge of their scientific inquiry field. To make use of this knowledge, professionals refer to retrieval strategies, intuition being one of them. However, at this point it must be clearly stated how to distinguish intuitions of the expert performance from intuitions of the layman. The vital procedural difference between intuitive thinking of experts and non-experts is that the first group can provide content-related, specialist evaluation of their choice; a novel, intuitively-driven solution to the problem undergoes a specialist verification, from the point of view of its winning position among other potential choices. A semi-professional or a layman, conversely, will grasp the intuitive/cognitive outcome that will pop up into his/her conscious attention along his/her thinking process, and will not be able to justify the very solution. If intuition is not combined with professional expertise, and constitutes but 'the only strategy out of trouble', intuitive choice will be subjective and functionally suspicious. The decision maker will be at a loss as to how to approach the solution grasped. Intuitions of the expert consultant are objectified through the process of professional evaluation of the effects obtained.

6. Conclusions

To ultimately accept intuition into the cognitive repertoire of strategies, further studies need to be undertaken. However, today psychologists seem to be equipped with a collection of formal conceptual devices to be able to continue the discussion of the cognitive character of intuition. The postulate that humans single out solutions in the problem-solving programs by means of intuitive thinking (as one of the cognitive strategies at one's disposal) can serve as a starting point of the further research into the issue of the relevance of intuition in psycholinguistics.

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