

## Representation of knowledge in cognitive sciences

© V.A. Inozemtsev

Bauman Moscow State Technical University, Moscow, 105005, Russia

*The article develops the concept of cognitive representation, within the framework of which the problem of representation of knowledge in cognitive sciences is studied. Specificity and the lines of approach of this problem are revealed in such sciences as cognitive psychology, cognitive linguistics, cognitive psycholinguistics, various versions of evolutionary epistemology, an ecological approach to visual perception or ecological epistemology, the theory of personal constructs.*

**Keywords:** *representation of knowledge, cognitive sciences, cognitive psychology, cognitive linguistics, cognitive psycholinguistics, evolutionary epistemology, ecological epistemology, theory of personal constructs*

### REFERENCES

- [1] Neisser U. *Cognition and reality*. 4th ed. San Francisco, W.H. Freeman, 1976, 230 p. [In Russ.: Neisser U. *Poznanie i realnost*. Moscow, Progress Publ., 1981, 230 p.].
- [2] Bruner J.S. *Beyond the Information Given: Studies in the Psychology of Knowing*. W.W. Norton & Company, 1973, 502 p. [In Russ.: Bruner J.S. *Psihologiya poznaniya*. Moscow, Progress Publ., 1977, 412 p.].
- [3] Velichkovskiy B.M. *Sovremennaya kognitivnaya psikhologiya* [Modern cognitive psychology]. Moscow, MSU Publ., 1982, 336 p.
- [4] Kubryakova E.S. Evolyutsiya lingvisticheskikh idey vo vtoroy polovine XX veka (opyt paradigmalnogo analiza) [Evolution of linguistic ideas in the second half of the 20th century (experience of paradigm analysis)]. In: *Yazyk i nauka kontsa XX veka* [Language and Science of the End of the 20th Century]. Moscow, Yazyki slavyanskoy kultury Publ., 1995, pp. 144–238.
- [5] Kubryakova E.S. *Yazykiznanie* [Language and knowledge]. Moscow, Yazyki slavyanskoy kultury Publ., 2004, 540 p.
- [6] Schank R.C. *Conceptual Information Processing*. North Holland Publ., 1975. [In Russ.: Schank R.C. *Obrabotka kontseptualnoy informatsii*. Moscow, Energiya Publ., 1980, 360 p.].
- [7] Kalashnikova L.V. *Koreferentsiya: psikholingvisticheskaya model kontseptualnykh reprezentatsiy* [Co-reference: a psycholinguistic model of conceptual representations]. Moscow, MASV, 2002, 189 p.
- [8] Demyankov V.Z. *Morfologicheskaya interpretatsiya teksta i ee modelirovanie* [Morphological interpretation of the text and its modeling]. Moscow, MSU Publ., 1994, 189 p.
- [9] Luriya A.R. *Osnovnye problemy neyrolingvistiki* [The main problems of neurolinguistics]. Moscow, MSU Publ., 1975, 253 p.
- [10] Belyanin V.P. *Psikholingvistika* [Psycholinguistics]. Moscow, Flinta Publ., 2009, 226 p.
- [11] Zalevskaya A.A. *Vvedenie v psikholingvistiku* [Introduction to Psycholinguistics]. Moscow, RSUH Publ., 1999, 381 p.
- [12] Minskiy M. *Struktura dlya predstavleniya znaniya* [Structure for representation of knowledge]. In: *Psihologiya mashinnogo zreniya* [Psychology of Machine Vision]. Moscow, Mir Publ., 1978, pp. 249–338.

- [13] Minskiy M. *Freymy dlya predstavleniya znaniy* [Frames for representation of knowledge]. Moscow, Mir Publ., 1979, 151 p.
- [14] Pospelov D.A. *Logiko-lingvisticheskie modeli v upravlenii* [Logico-linguistic models in management]. Moscow, Energoatomizdat Publ., 1981, 231 p.
- [15] Pylyshyn Z.W. *The robot's dilemma: the frame problem in artificial intelligence*. New York, Ablex, 1987, 134 p.
- [16] Jackendoff R. *Patterns in the mind: Language and Human Nature*. New York, 1994, 143 p.
- [17] Magazov S.S. *Kognitivnye protsessy i modeli* [Cognitive processes and models]. Moscow, LKI Publ., 2007, 248 p.
- [18] Popper K.R. *Evolutionary Epistemology. Evolutionary Theory: Pass into the Future*. Chichester and New York, 1984, ch. 10, pp. 239–255. [In Russ.: Evolyutsionnaya epistemologiya. V kn.: Evolyutsionnaya epistemologiya i logika sotsialnykh nauk. Moscow, Editorial-URSS Publ., 2000, pp. 57–75].
- [19] Lorenz K. *Behind the Mirror*. London, Methuen, 1977, 261 p. [In Russ.: Lorenz K. Oborotnaya storona zerkala. Moscow, Respublika Publ., 1998, 492 p.].
- [20] Campbell D.T. Evolutionary epistemology. *The philosophy of K. Popper*. LaSalle, 1974, p. 413–463.
- [21] Bartley W.W., Radnitzky G., eds. *Evolutionary epistemology, rationality and the sociology of knowledge*. La Salle, IL, Open Court, 1987, 190 p. [In Russ.: Follmer G. *Evolyutsionnaya teoriya poznaniya*. Moscow, Russkiy dvor Publ., 1998, 160 p.].
- [22] Maturana H.R., Varelo F.J. *The Tree of Knowledge: The Biological Roots of Human Understanding*. Shambhala, 1992, 269 p. [In Russ.: Maturana H.R., Varelo F.J. *Drevo poznaniya*. Moscow, Progress-traditsiya Publ., 2001, 223 p.].
- [23] Gibson J. *An ecological approach to perceptual learning and development*. Oxford University Press, 2000, 238 p. [In Russ.: Gibson J. *Ekologicheskii podkhod k zritelnomu vospriyatiyu*. Moscow, Progress Publ., 1988, 461 p.].
- [24] Kelly G. *A theory of personality: the psychology of personal constructs*. W.W. Norton, 1963, 190 p. [In Russ.: Kelly G. *Psikhologiya lichnosti. Teoriya lichnykh konstruktov*. St. Petersburg, Rech Publ., 2000, 249 p.].
- [25] Inozemtsev V.A. *Reprezentatsiya znaniya v sovremennoy nauke: filosofsko-metodologicheskii analiz* [Representation of knowledge in modern science: philosophical and methodological analysis]. Moscow, MSTU «MAMI» Publ., 2009, 248 p.
- [26] Inozemtsev V.A. *Izvestiya MGTU «MAMI»*, 2015, no.1, vol. 6, pp. 68–74.
- [27] Inozemtsev V.A. *Izvestiya MGTU «MAMI»*, 2014, no.1, vol. 5, pp. 121–126.
- [28] Inozemtsev V.A. *Logiko-epistemologicheskoe issledovanie iskusstvennogo intellekta: fenomen kompyuternoy reprezentatsii znaniya* [Logico-epistemological study of artificial intelligence: the phenomenon of computer representation of knowledge]. Moscow, ITO Semrik Publ., 2014, 159 p.

**Inozemtsev V.A.**, Cand. Sc. (Philosophy), Assoc. Professor, Department of Philosophy, Bauman Moscow State Technical University. e-mail: inozem\_63@mail.ru