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Slavik V. Jablan* (jablans@yahoo.com), The Mathematical Institute, P.O.Box 367, 11001
Belgrade, Serbia and Montenegro. *Do you like Paleolithic Op-art?* Preliminary report.

The term "key-patterns" is used to denote key-like patterns occurring in the Greek, Roman, Mayan, Chinese, and Celtic art. Because they are specific in visual sense, they are distinguished in G. Bain's book [1] in a separate chapter. G. Bain explicitly noticed the connection between key-patterns, spirals, meanders, mazes and labyrinths [2, 3].

The oldest examples of key-patterns belong to the Paleolithic art (23 000 B.C., Mezin. Ukraine). Next peak of key-patterns are Celtic ornaments. We will try to explain the joint mathematical construction principle of key-patterns and mazes: the use of a regular system formed by a meander spiral or concentric squares, which is interrupted by "dislocations": rectangles with diagonal strips obtained by using the principle of antisymmetry. The same construction is used in many Op-art works [4].

References:

- [1] Bain G., *Celtic Art—the Methods of Construction*, Dover, New York, 1987.
- [2] Phillips A., *The Topology of Roman Mazes*, Leonardo: Visual Mathematics, Vol. 25, No. 3-4, (1992), 321-329.
- [3] Rosenstiehl P., *How the "Path of Jerusalem" in Chartres Separates Birds from Fishes*, M.C. Escher: Art and Science, North Holland, Amsterdam, New York, Oxford, Tokyo, 1987, pp. 221-230.
- [4] Barrett C., *Op-art*, Studio Vista, London, 1970.

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