

A Slavonian/Slovenian and biographical history of configurations

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dedicated to Dragan and Brian,

but also to Tomo (Pisanski) and Branko (Grünbaum)

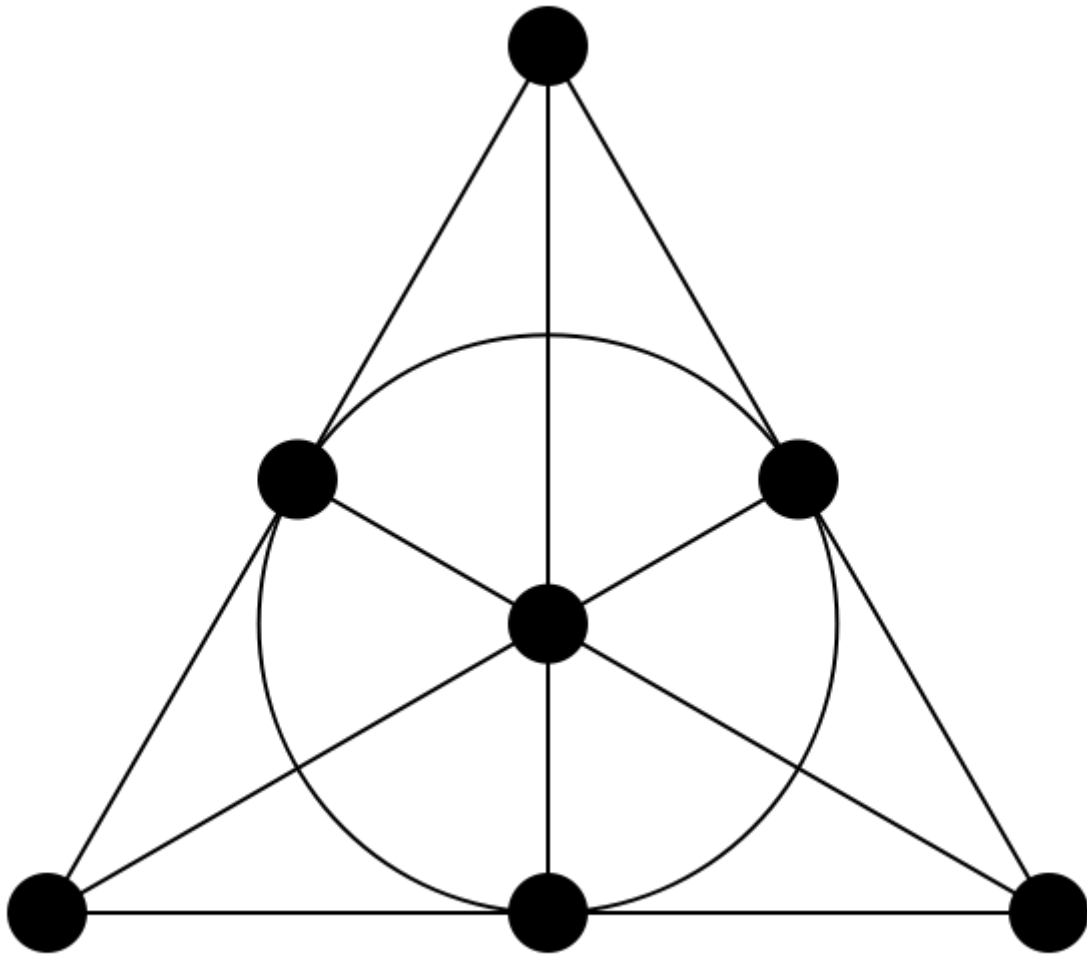


Gerhard Daum, * Berlin 1954 , <http://kunst-daum.de>

May 2018 Heidelberg Symposium, Heidelberg

Jan./Febr. 2018 L'art pour Lahr, Lahr

Konstruktivismus mathematisch - experimentell



1988 Ravello (Italy): 229 configurations 12_3 (1 more)

Art (U), History(H), Combinatorics(C), Biography(B),

**Geometry(G), Music(M), Astronomy(A): 7 points. Now
construct 7 lines such as UCG,**



<<<<< **June 1991 BLED** >>>>>



H.G., Zwei Wochen im Juni (will probably never be written)

1991 (twice), 1995, 1999, 2003, **2004 (Vega)**, **2004**, 2007,
2012, **2018 (NOW)** [the last 28 years]

Slavonian Milutin Milanković (1879-1958) , born in Dalj:
orthodox calendar, astronomical theory of climate change

**M.M.: Durch ferne Welten und Zeiten. Briefe
eines Weltallbummlers, Leipzig (1936) , and**



**M.M.: Zgodovina astronomije od njenih prvih začetkov do leta
1727, Ljubljana (1951).**

“If they would only reprint “Through Distant Worlds and Times”(Through the Universe and the Centuries), I am sure it would sell well. Shortage of paper, except for that used in political pamphlets and manifestos, prevents the printing of old Milanković's Popular astronomy, even though it is desired by the public. In Slovenia they are publishing, in the native language, my manual for university students – 'The History of Astronomical Science'. What is the use of money when you cannot buy what you want ?” (letter to his son Vasko, 1952, translated from Serbian into English by Vasko)

“Weltallbummler”:

Astronomy, History of astronomy, Biography of M.M.

Branko Grünbaum, born in Osijek (Slavonia)

Tomaž Pisanski, born in Ljubljana (Slovenia)

Where is Slavonia ?





Branko Grünbaum, 1975

Configurations are linear regular uniform hypergraphs, but investigated in a geometric language since 1876.

Closely related to bipartite graphs, combinatorial designs

(Fano configuration and Heawood graph)

Are the necessary existence conditions sufficient ?

If yes, construct all non-isomorphic structures and investigate their properties.

From Wikipedia:

The number of nonisomorphic configurations of type (n_3) , starting at $n=7$, is given by the sequence

1,1,3,10,31,229,2036, 212399, 245342, ...

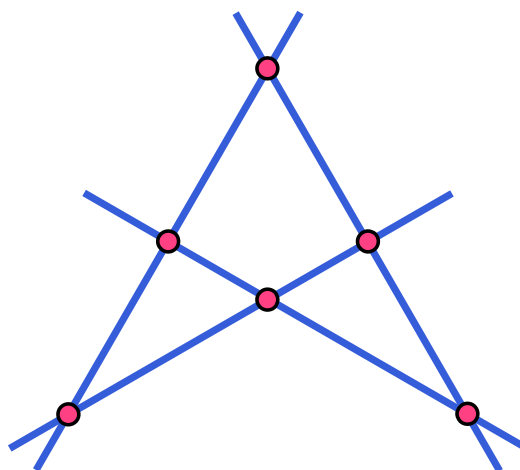
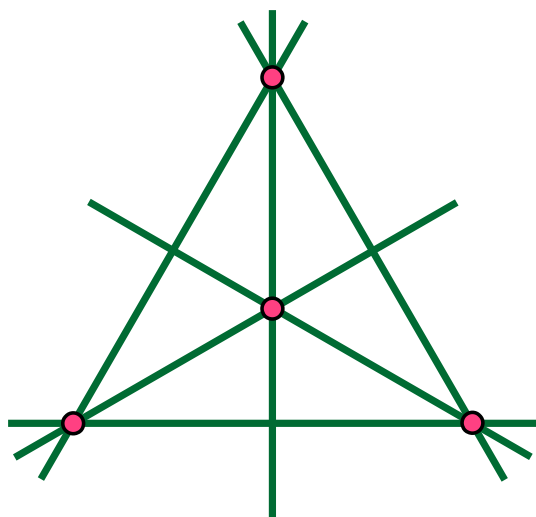
These numbers count configurations as abstract incidence structures, regardless of realizability (Betten, Brinkmann & Pisanski 2000). As Gropp (1997) discusses, nine of the ten (10_3) configurations, and all of the (11_3) and (12_3) configurations, are realizable in the Euclidean plane, but for each $n>15$ there is at least one nonrealizable (n_3) configuration. Gropp also points out a long-lasting error in this sequence: an 1895 paper attempted to list all (12_3) configurations, and found 228 of them, but the 229th configuration was not discovered until 1988.

There is no configuration 22_5 , no 32_6 .

There is no 33_6 , but there is a configuration 34_6 .

Smallest open cases for symmetric configurations: 46_7 , 47_7

There are also non-symmetric configurations:



“There was a time when the study of configurations was considered the most important branch of geometry”(Hilbert)

Grünbaum (2009) on page 13:

“However, it should be borne in mind that Gropp's attitude towards geometric configurations may be inferred from his statement in [101]: “From the point of view of pure combinatorics the problems of realizing and drawing configurations may be artificial.”” ([101] is H.G., Configurations between geometry and combinatorics, Discrete Appl. Math. 138 (2004), 79-88)

SOME LAST REMARKS

EASTER DATES IN 2019 (compare Milanković)

	Easter	Ascension	Pentecost	Corpus Christi
astronomical	March 24	May 2	May 12	[May 23]
Western	April 21	May 30	June 9	(June 20)
Eastern	April 28	June 6	June 16	---

M.M. to his son in Australia:

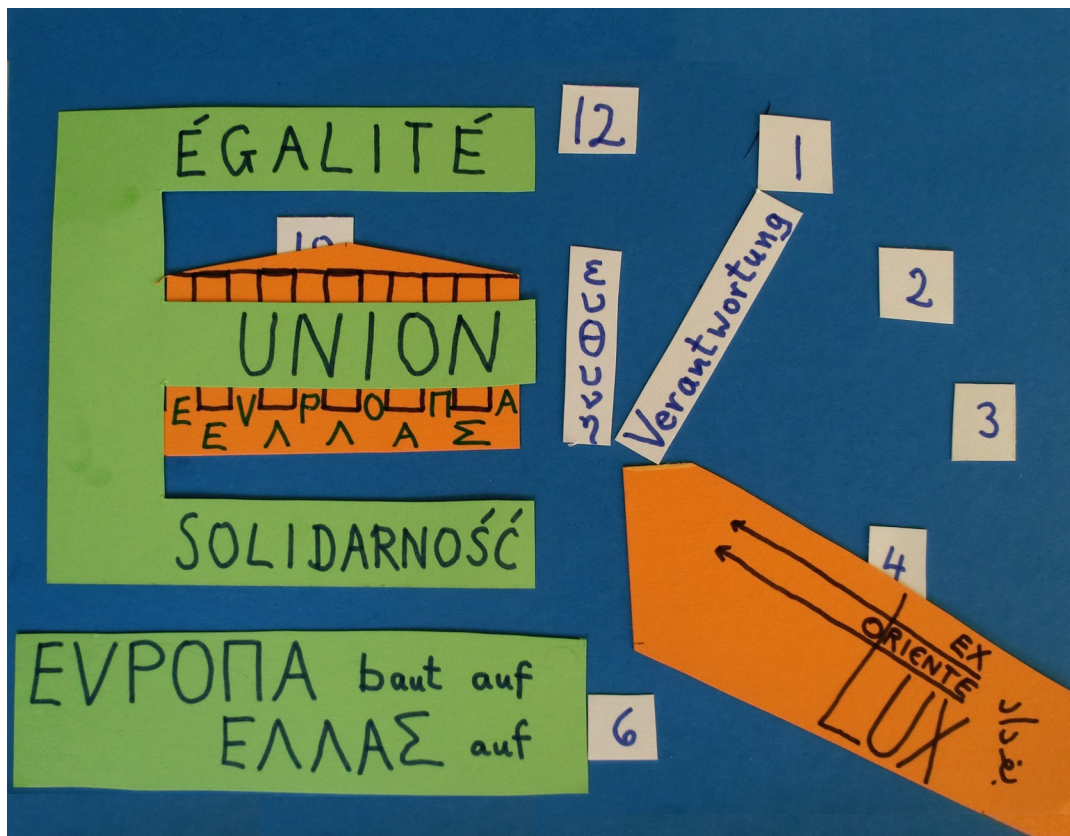
“A short while later I replied. It was 5th January 1953.

Dear Vasko Tomorrow is Christmas Eve (our church calendar being 13 days behind the Georgian), and we are invited to the Nicola's (my uncle). On Christmas Day we will be here, at home. For lunch, and you will be with us in our thoughts.”

Let us focus again on the research on configurations:

2019, 2020, ... There is much to do, also for “only combinatorial” configurations.

A last piece of art concerning EUROPE



H.G. 2011/12



and EARTH

H.G. 2011/12

HVALA LEPA

THANK YOU

