# 18 Quark Types in Vedic Particle Physics

By John Frederick Sweeney



#### Abstract

As the author has previously written on Vixra, there are 18 types of Quarks in Vedic Particle Physics, not merely six, as described in western physics. This paper provides the sources which describe these 18 Quark types, both Vedic and western, as these 18 types of Quarks have been lingering around western science in the form of Binary Matroids – albeit the 18 irregular Binary Matroids.

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## Introduction

Upon first reading about the 18 types of Quarks in a book by G. Srinivasan some five years ago, I felt sceptical about this claim. Srinivasan made extraordinary claims in his book, even if under-stated. How could western science have missed these 12 types of Quarks, with all the linear accelerators and particle accelerators? Science spends billions on smashing insignificant and ephemeral particles, with larger and larger atom smashers, at increasing expense. How could they have missed 12 Quark types?

As a youth, I had driven over the Stanford Linear Accelerator, wondering whether scientists were busy smashing particles as I drove past on Route 280. How was it that India, lacking such modern scientific infrastructure, could discover what Stanford scientists had failed to discover? Indian mathematicians are indeed among the best, living in Silicon Valley during the late 1970's and early 1980's afforded me the chance to watch Fremont, California turn from a beautiful green mountain into a Little India. Indian grad students dominated Berkeley's science and math departments.

A few years later I read the same in Vedic Particle Physics by K.C. Sharma, then re – read the section a few times over, until I finally understood how Vedic Physics derives 18 types of Quarks. Still, the argument failed to hold sustaining power adequate to convince westerners of its veracity.

By chance, I happened to catch a glimpse of a paper which caught my eye, early one morning before going to bed before a late night. I downloaded the paper without even reading the abstract. When I read the paper the following day, I realized that the 18 sporadic forms of Binary Monads were in fact the 18 varieties of Quarks. The Indian writers had failed to articulate their knowledge to this point, but upon catching a glimpse of the paper's title, I instinctively knew what I had found.

This paper presents the Wikipedia version of Binary Matroids, then evidence from two distinct papers by western scholars on the format of those 18 Sporadic Binary Monads. This paper concludes with the assertion that the author has indeed located the typology of 18 Quark types.

### Wikipedia

In <u>matroid theory</u>, a binary matroid is a matroid that can be <u>represented</u> over the <u>finite field GF(2)</u>.<sup>[11]</sup> That is, up to isomorphism, they are the matroids whose elements are the columns of a (0, 1)-matrix and whose sets of elements are independent if and only if the corresponding columns are <u>linearly independent</u> in GF(2).

#### Alternative characterizations<u>Edit</u>

A matroid M is binary if and only if

- It is the matroid defined from a symmetric (0, 1)-matrix.<sup>[2]</sup>
- For every set S of circuits of the matroid, the <u>symmetric difference</u> of the circuits in S can be represented as a <u>disjoint union</u> of circuits.<sup>[3][4]</sup>
- For every pair of circuits of the matroid, their symmetric difference contains another circuit. [4]
- For every pair  $C, D_{\text{where }} C$  is a circuit of M and D is a circuit of the <u>dual matroid</u> of M,  $|C \cap D|_{\text{is an even number.}}^{[4][5]}$
- For every pair B, C where B is a basis of M and C is a circuit of M, C is the symmetric difference of the fundamental circuits induced in B by the elements of  $C \setminus B$ . [4][5]
- No matroid minor of M is the uniform matroid  $U_4^2$ , the four-point line. [6][7]
- In the <u>geometric lattice</u> associated to the matroid, every interval of height two has at most five elements.<sup>[8]</sup>

### Related matroidsEdit

Every <u>regular matroid</u>, and every <u>graphic matroid</u>, is binary.<sup>[5]</sup> A binary matroid is regular if and only if it does not contain the <u>Fano plane</u> (a seven-element non-regular binary matroid) or its dual as a <u>minor</u>.<sup>[9]</sup> A binary matroid is graphic if and only if its minors do not include the dual of the graphic matroid of  $K_{5nor of} K_{3,3}$ . [10] If every circuit of a binary matroid has odd cardinality, then its circuits must all be disjoint from each other; in this case, it may be represented as the graphic matroid of a <u>cactus graph</u>. <sup>[5]</sup>

### Additional properties Edit

If M is a binary matroid, then so is its dual, and so is every <u>minor</u> of M.<sup>[5]</sup> Additionally, the direct sum of binary matroids is binary.

Harary & Welsh (1969) define a bipartite matroid to be a matroid in which every circuit has even cardinality, and an <u>Eulerian matroid</u> to be a matroid in which the elements can be partitioned into disjoint circuits. Within the class of graphic matroids, these two properties describe the matroids of <u>bipartite graphs</u> and <u>Eulerian graphs</u> (not-necessarily-connected graphs in which all vertices have even degree), respectively. For <u>planar graphs</u> (and therefore also for the graphic matroids of planar graphs) these two properties are dual: a planar graph or its matroid is bipartite if and only if its dual is Eulerian. The same is true for binary matroids. However, there exist non-binary matroids for which this duality breaks down.<sup>[5][11]</sup>

Any algorithm that tests whether a given matroid is binary, given access to the matroid via an <u>independence oracle</u>, must perform an exponential number of oracle queries, and therefore cannot take polynomial time.  $^{[12]}$ 

## **Western Sources on Binary Matroids**

#### MATROID TORIC IDEALS: COMPLETE INTERSECTION, MINORS AND MINIMAL SYSTEMS OF GENERATORS

IGNACIO GARCÍA-MARCO \* AND JORGE LUIS RAMÍREZ ALFONSÍN

In view of Theorems 3.4 and 3.5, one might wonder if the condition  $\Delta_{\{B_1,B_2\}} = \binom{2d-1}{d}$  for some  $B_1, B_2 \in \mathcal{B}$  is also sufficient to have  $\mathcal{U}_{d,2d}$  as a minor. For d = 4, we do not know it is true or not. Nevertheless, Example 3.6 shows that for d = 5 this is no longer true. That is to say, there exists a matroid  $\mathcal{M}$  with two bases  $B_1, B_2$  such that  $\Delta_{\{B_1,B_2\}} = \binom{9}{5} = 126$  and  $\mathcal{M}$  has not a minor isomorphic to  $\mathcal{U}_{5,10}$ . To prove this result we use the fact that there exist rank 3 matroids with exactly k bases-cobases for k = 14 and for k = 18. We have found these matroids by an exhaustive search among the 36 non-isomorphic matroids of rank 3 on a set of 6 elements.

There exist rank 3 matroids with exactly k bases – cobases for k = 14 and for k = 18...36 non – isomorphic matroids of rank 3 on a set of 6 elements.

18 Quarks, 36 Quarks altogether, including anti – particles on a set of 6 elements – the six flavors of Quarks currently known to western science.

### **Sporadic Matroids**

By

#### APPENDIX B

#### Sporadic matroids

There are 27 internally 4-connected non-cographic matroids in  $\mathcal{EX}(M(K_{3,3}))$  with rank at most 11 and ground sets of size at most 21. They are categorized in Tables [1] and [2] Five of these matroids are triangular Möbius matroids and four are triadic Möbius matroids (recall that  $\Delta_3$  and  $\Upsilon_4$  are isomorphic to the Fano plane and its dual respectively). The other 18 matroids are sporadic members of the class. All of the matroids listed in this appendix are vertically 4-connected, with the exception of  $M_{5,11}$ , which contains a single triad.

In the following pages we give matrix representations of these sporadic matroids. If A is one of the matrices displayed in Figures **B.1** to **B.9** then  $[I_{r(M)}|A]$  is a GF(2)-representation of a sporadic matroid M.

size 16				$\Delta_6$	
15 14		$\begin{array}{c} \mathrm{PG}(3,2)\\ M_{4,14} \end{array}$		_0	
13		$M_{4,13}$	$\Delta_5, M_{5,13}$	$M_{6,13}$	
12 11		$C_{12}, D_{12}$ $C_{11}, M_{4,11}$	$\begin{array}{c} M^a_{5,12}, \ M^b_{5,12} \\ M_{5,11}, \ T_{12}/e \end{array}$	${T_{12} \atop \Upsilon_6}$	
$\begin{array}{c} 10\\ 9\end{array}$		$\Delta_4, M(K_5)$			
9 8 7	$F_7$	$F_7^*$			
	3	4	5	6	rank

Table 1: Internally 4-connected non-cographic matroids in  $\mathcal{EX}(M(K_{3,3}))$ .

 $\pm 54$ 

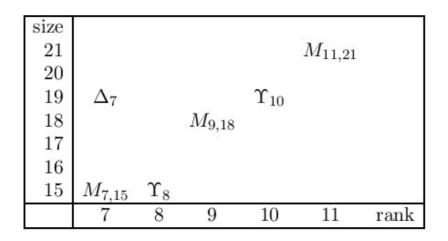


Table 2: Internally 4-connected non-cographic matroids in  $\mathcal{EX}(M(K_{3,3}))$ .

#### B. SPORADIC MATROIDS

1	0	0	1	0	1	1	0	0	1	0	1	1
0	1	0	1	1	0	0	1	0	1	1	0	1
0	0	1	0	1	1	0	0	1	0	1	1	1
1	1	1	0	0	0	1	1	1	0	0	1	0

Figure B.1: Matrix representations of  $M(K_5)$  and  $C_{11}$ .

1	0	0	1	0	1	0	[1	0	0	1	0	1	1	
0	1	0	1	1	0	1	0	1	0	1	1	0	1	1
0	0	1	0	1	1	1	0	0	1	0	1	1	1	-
1	1	1	0	0	0	1	1							

Figure B.2: Matrix representations of  $M_{4,11}$  and  $C_{12}$ .

1	0	0	1	0	1	0	1	0	0	1	0	1	1	1
0	1	0	1	1	0	1	$\begin{bmatrix} 1\\ 0\\ 0 \end{bmatrix}$	1	0	1	1	0	1	1
0	0	1	0	1	1	1	0	0	1	0	1	1	1	1
1	1	1	0	0	0	1	1	1	1	0	0	1	0	1

Figure B.2: Matrix representations of  $M_{4,11}$  and  $C_{12}$ .

 $C_{12}$  is isomorphic to the matroid produced by deleting a set of three collinear points from PG(3, 2).

1	0	0	1	0	1	0	1
0							
0	0	1	0	1	1	1	1
1	1	1	0	0	0	1	1

Figure B.3: Matrix representations of  $D_{12}$  and  $M_{4,13}$ .

 $D_{12}$  is isomorphic to the matroid produced by deleting a set of three non-collinear points from PG(3, 2).

1	0	0	1	0	1	0	1	1	1
0	1	0	1	1	0	1	0	1	1
0	0	1	0	1	1	1	1	0	1
1	1	1	0	0	0	1	1	1	0

Figure B.4: Matrix representations of  $M_{4,14}$  and PG(3, 2).

 $M_{5,11}$  is not vertically 4-connected. It contains exactly one triad: the set  $\{4, 5, -6\}$ , using the convention that if A is the matrix given so that  $M_{5,11}$  is represented by  $[I_5|A]$ , then the columns of I are labeled by  $1, \ldots, 5$ , and the columns of A are labeled by  $-1, \ldots, -6$ .

1	0	0	1	0	1	1	0	0	0	1	1
			1			1	1	0	0	0	1
0	0	1	0	1	1	0					
1	1	1	0	0	1	0	0	1	1	0	1
1	1	1	0	0	0	0	0	0	1	1	1

Figure B.5: Matrix representations of  $M_{5,11}$  and  $T_{12}/e$ .

ſ	_														
	1	0	0	0	1	1	0	1	0	0	0	1	1	0	
	1	1	0	0	0	0	1	1	1	0	0	0	1	1	
	0	1	1	0	0	1	0	0	1	1	0	0	1	1	
	0	0	1	1	0	0	1	0	0	1	1	0	1	1	
	0	0	0	1	1	1	0	0	0 1 1 0 0	0	1	1	1	1	

Figure B.6: Matrix representations of  $M^a_{5,12}$  and  $M^b_{5,12}$ .

Б	0	0	0	1	1	0	1
1							
1							
0	1	1	0	0	1	1	1
0	0	1	1	0	1	1	1
0							
							_

Figure B.7: Matrix representations of  $M_{5,13}$  and  $T_{12}$ .

 $M_{5,12}^a$  is isomorphic to  $\nabla(F_7^*; \mathcal{T}_4^a)$ , where  $\mathcal{T}_4^a$  is a set of four triangles in the Fano plane, three of which contain a common point.

$\begin{array}{cccccccccccccccccccccccccccccccccccc$		Γ	$\lceil 1 \rceil$	$\begin{bmatrix} 1 & 0 \end{bmatrix}$	$\begin{bmatrix} 1 & 0 & 0 \end{bmatrix}$	$\begin{bmatrix} 1 & 0 & 0 & 0 \end{bmatrix}$	$\begin{bmatrix} 1 & 0 & 0 & 0 & 1 \end{bmatrix}$	$\begin{bmatrix} 1 & 0 & 0 & 0 & 1 & 1 \end{bmatrix}$	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		- 1							$1 \ 0 \ 0 \ 0 \ 1 \ 1 \ 0$
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$									
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		0		1	1 1	$1 \ 1 \ 0$	$1 \ 1 \ 0 \ 0$	1 1 0 0 1	1 1 0 0 1 0
		0		0	$0 \ 1$	$0 \ 1 \ 1$	$0 \ 1 \ 1 \ 0$	$0 \ 1 \ 1 \ 0 \ 0$	$0 \ 1 \ 1 \ 0 \ 0 \ 1$
		0		0	0 0	$0 \ 0 \ 1$	$0 \ 0 \ 1 \ 1$	$0 \ 0 \ 1 \ 1 \ 1$	$0 \ 0 \ 1 \ 1 \ 1 \ 0$
	- I								$1 \ 0 \ 0 \ 1 \ 1 \ 1$
									0 1 0 1 1 1

Figure B.8: Matrix representations of  $M_{6,13}$  and  $M_{7,15}$ .

 $M_{6,13}$  is isomorphic to  $\nabla(F_7^*; \mathcal{T}_4^b)$ , where  $\mathcal{T}_4^b$  is a set of four triangles in the Fano plane, no three of which contain a common point, and  $M_{7,15}$ is isomorphic to  $\nabla(F_7^*; \mathcal{T}_5)$ , where  $\mathcal{T}_5$  is a set of five triangles in the Fano plane.

								_
1	0	0	0	1	1	0	0	0
1	1	0	0	0	0	1	0	0
0	1	1	0	0	1	0	0	0
0	0	1	1	0	0	1	0	0
0	0	0	1	1	1	0	0	0
0	1	0	0	0	0	1	1	0
0	1	1	0	1	1	0	1	0
0	0	1	0	0	0	1	0	1
0	1	1	0	1	1	0	0	1
_								_

Figure B.9: Matrix representations of  $M_{9,18}$  and  $M_{11,21}$ .

 $M_{9,18}$  is isomorphic to  $\nabla(F_7^*; \mathcal{T}_6)$ , where  $\mathcal{T}_6$  is a set of six triangles in the Fano plane, and  $M_{11,21}$  is isomorphic to  $\nabla(F_7^*; \mathcal{T}_7)$ , where  $\mathcal{T}_7$  is the set of all seven lines in the Fano plane.

## **Sporadic Binary Monoid Matrice Table**

Binary Monoid Matrice	Matrix Size		Group	
B1	6 x 4 = 24	Hurwitz Quaternions	MK5	
C11	7 x 4 = 28	Sedenion	C11	
B2	7 x 4 = 28	Sedenion	M4 11	
C12		Sedenion	C12	PG (3,2)
B4	$10 \times 4 = 40$	M4 14		
B4	11 x 4 = 44	Sedenion		PG (3,2)
B5	6 x 5 = 30		M5 11	
B5	6 x 5 = 30		T 12 / e	
B6	7 x 5 = 35		M a 5, 12	
B6	7 x 5 = 35		M b 5, 12	
B7	8 x 5 = 40		M 5, 13	
B7	6 x 6 = 36			T12
B8	7 x 6 = 42	Sedenion	M 6, 13	
B8	7 x 6 = 42	Sedenion	M 7, 15	
В9	9 x 9 = 81	Rajic	M9, 18	
B9	11 x 10 = 110		M11, 21	

### **Vedic Combinatorial Sources on 18 Quark Types**

G. Srinivasan

There are 18 incrementally graded quark levels, but theoretical premises based on empiricism in particle physics extends it only to 6 levels; exactly a third but the levels are logarithmic.

### Purusha (Kx) is a black hole mass of quarks

The moolaprakrithi is stable and forms the first internal level but the prakrithi – vikrithi polarisation to the next level gets externalised, yet still remains stable for the following reasons. An interaction on colliding or obstruction of the vibratory state, superpose or add instantly or the output sum becomes a product of the two values.

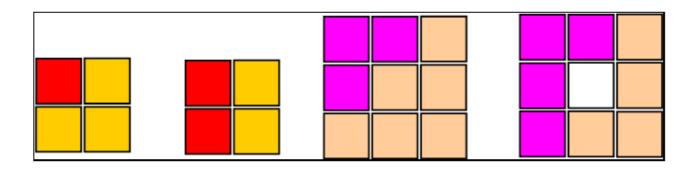
When balance is attained by separating in a sequential or periodic mode the value divides into equal halves or is additive. If the division is not equal then there is movement of nodes towards the lower value state.

Any interaction is direction - dependent along any axis and any colliding action between the vibrating components can increase the rate of change from 1 to 2 as  $2 \times 2 = 4$  but the captive value of 7 + 1 = 8 is still larger than 4 and the level of activity is not enough to radiate or move away.

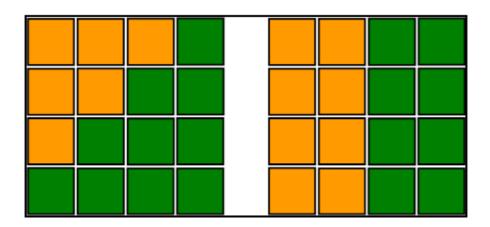
The next level is reached when either one axis or a synchronisation of 2 axis has nodal value of 4. Then an interaction between two adjoining states will have a product of  $4 \times 4 = 16$  which then can separate in equal distance or time cycle of 8 + 8 = 16 and still remain balanced.

When 16 is exceeded, movement away from centre commences or the centre of action drifts or radiation of vibrations takes place. The graphic presentation makes it clear that in a count rate of 10 per cycle the combination of increments yields  $8+8=16 = 4 \times 4$ .

The expression for adding incremental rates that can be stable or divisible by 2 is  $(n \times (n+1))/2$ . This method eliminates the recount of a cube in two or three axis synchronisation and the cube is the equivalent of a point in space or a node.



The stable combination = 1 + 3 = 2 + 2 = 22 = 4The unstable combination= 3 + 6 = 4.5 + 4.5 = 32 = 9The expression (n2+n)) /2 provides stable combination.



10+5=15. 15+6=21. 21+7=28. 28+8=36. 36+9=45.

45+10=55. etc

The combination

6+10 =16= 8+8 =42

is stable. When balanced it is stable, or else there are stress currents in both directions that shift the nodes. The left combinations are stable only at a gradient of 1 in 2. The combination of incremental harmonics can remain stable if divisible by 2 to maintain the standing wave relationship. The right side combines with similar states in a coherent standing wave Prakrithi relationship. The periodic table in chemistry and the quark spectrum in particle physics follows the same rule.

## **Quarks in Vedic Nuclear Physics**

K.C. Sharma

One structure of the form of H7 of all the three types of Vartmas of Vedic Nuclear Physics becomes a particular structure of a particular Quark particle. The H7 of the seven Hyper Circles of these Trivartmas form the structure of the biggest Quark particles. Giant Quarks emerge from this process when the seven Hyper Circles of the Giant Quarks development, by the bonding process of the seven Hyper Circles of the Trivartmas.

When the H7 of the seven Hyper Circles of these Trivartmas of a Quark particle converts into an Eight Hyper Circle, then it begins to disintegrate into an Anti – Quark particle. In this way, every Quark has its Anti – Quark.

Six flavors of Quarks of every color, named for their symbols with three color forces, so  $3 \times 6 = 18$ 

Up	Down	Charm	Strange	Тор	Bottom

### Anti – Quarks

Up	Down	Charm	Strange	Тор	Bottom

The free Vartma particle becomes the gluon, which makes the bonding of the Quark particles, to develop Giant Quarks. Or other larger particles.

## **Particle Typology in Vedic Particle Physics**

<b></b>	4000		10,000	
Total counts 10e+50	10e+28 Entropy	Interactive Flux	10e+22 radiation	
Coherence (Thaamasic)		3 - axes synchronised		Singularity
Andhatamisra		28-8 =10e+20		Black hole
Prakriti mahat	22 +3 =10e+25	2 axes Synchronised	Coherent Limit	Planck mass
Moha	10e+10 Coherent	20-10=10e+10		Heavy Quark
Mahamoha	10e+10 Resonant	10 - 3 (axis) = 10e +7		Quark
Interactive balance		Spherical Flux 3 axes		Strong
Prakriti Sapta	22 +3=10e+25	22+3=10e +25	Resonant Limit	Hadronic
(Rajasic)	Interlocked mode	Area Flux 2 axes		Bosonic
Abhiman		8+3=10e+11		Phase potential
Ahankar		8-3=10e+5		Phase velocity
Linga		9-3=10e+6		Magnetic
Bhava		9-3x2=10e+3		Electric
(Satwic)		Radial flux on 1 axis	Radiant Limit	5.133e+26 GEV
Vikriti Mahat/Sapta	25-3 =10e+ 22	20+5=25 25-3=22	10e+5	1.236e+19 GEV
Tusti internal	10e+20	16+4=10e+ 20	10e+4	0.93927 GEV
Vikaro	10e+16	3+13=10e+ 16	10e+3	0.511 MEV
Tusti external	10e+13	16-3=10e+13	10e+5	53.45 EV x 7
Siddhi	10e+8	13-5=10e+8	10e+8	53.45 EV
Moolaprakriti	1	1	1	7.543 e-16 EV

## Conclusion

As one may see from the table above, Quarks emerge after the Planck Mass, in two types: Moma, based on fields of ten; and Mahoma, based on the Octonionic seven. As the matrices above describe, Octonionic Binary Matroids probably derive from the latter, albeit while lacking a key point or key line. Why this lack should occur remains unknown, however, in the Trigintaduonions and Caturduonions, the Fano Plane disappears entirely.

This paper has given the Wikipedia entry for Binary Matroids, then two academic papers by western scholars which outline the 18 Sporadic Matroids. The author of this paper asserts that these 18 Sporadic Matroids comprise the 18 Quark types described by Vedic Physics, since there are 18 of them, based on a set of six (the six flavors known to western science); and because the authors of one paper searched:

36 non – isomorphic matroids of rank 3

The 36 would be the entire set of 18 + 18 = 36 Quarks and Anti – Quarks.

B7	8 x 5 = 40	ſ	M 5, 13	
B7	6 x 6 = 36			T12

The B7 matrices likely pertain to the entire group of Quarks and anti – Quarks.

Moreover, the matrices given by the second paper reflect a basic tenet of Vedic Particle Physics: that Vishnu, or god, is not required to create Quarks all of the same size. The different sized matrices allow for an entire range of Quark sizes, up to the Giant Quarks described by K.C. Sharma. G. Srinivasan explains how the maximum number of counts for a particle is 100 (50 in either direction), in combinatorial Vedic Micro Physics, which is consonant with the largest matrice given above.

## Bibliography

Wikipedia

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G. Srinivasan, Secrets of Sankhya, 2008.

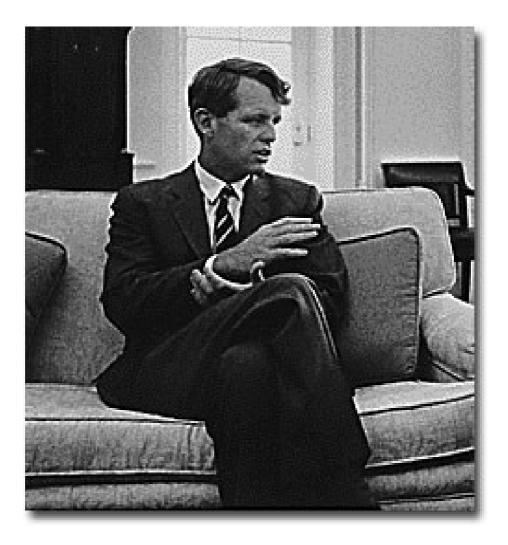
#### MATROID TORIC IDEALS: COMPLETE INTERSECTION, MINORS AND MINIMAL SYSTEMS OF GENERATORS

IGNACIO GARCÍA-MARCO \* AND JORGE LUIS RAMÍREZ ALFONSÍN

Internally 4-Connected Binary Matroids With No M (K3,3)-Minor, Dillon Mayhew, Gordon Royle Geoff Whittle

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# Dedication



Some men look at things as they are, and ask, "Why?"

I see things that never have been, and ask, "Why not?"

So let us dedicate ourselves to what the Greeks wrote so long ago:

To tame the savageness of man and to make gentle the life of this world.

**Robert Francis Kennedy**