

Melbourne University Puzzle Hunt — 2004

Act 4

*“You are not wrong, who deem
That my days have been a dream;
Yet if hope has flown away
In a night, or in a day,
In a vision, or in none,
Is it therefore the less gone?
All that we see or seem
Is but a dream within a dream.”*

—Edgar Allen Poe, *'A Dream Within a Dream'*

*“ ‘Who goes there?’ said the guard at the gate.
‘What is the news, that you ride so late?’
‘News most pressing, that must be spoken
To Caesar alone, and that cannot wait.’*

*‘The Caesar sleeps; you must show a token
That the news suffice that he be awoken.
What is the news, and whence do you come?
For no light cause may his sleep be broken.’*

*‘Out of the dark of the sands I come,
From the dark of death, with news for Rome.
A word so fell that it must be uttered
Though it strike the soul of the Caesar dumb.’ ”*

—John Masefield, *'The Rider at the Gate'*

Prelude

Without daring to look back, you and Ray flee through the catacombs. As you run out of a small antechamber, Volkas suddenly snatches a rough bit of paper nailed next to the doorway. When you ask why, Volkas answers between breaths that he thinks this may be a clue for a codeword to decrypt messages from the cult's headquarters; as he passes it to you, you see some squares on it arranged in the shape of a cross. A thunderous din explodes from the underground behind you as you slam a door behind you, escape through the Brownless Biomedical library and into... the faint dawn sunlight. You glance at your watch; it's 5:45am and two days before the election (solving all those puzzles must've taken you longer than you thought). While the behaviour of the hessian-wearing bards disturbs you somewhat, you can't seem to purge from your mind the eerie image of John Howard with his unusually pale skin and scorched eyebrows.

Out of the corner of your eye you notice man moving quickly. You recognize as Dr. Melatos of the physics department as he scurries past. Wait!... shouldn't he be dead? You see the head of a lyre poking out of his bag and it starts to make sense. The cult of bards needed someone on the inside to pull off their plot.

Before you can decide what to do he disappears from view and you turn to Ray for guidance only to have him shrug his shoulders. You look around, half expecting to find another suspicious early-morning wanderer to follow but find none. You ponder for a moment the strange conversation which you heard while deep underground and realise, with a certain sense of foreboding, that it may be necessary to revisit those strange underground lairs to uncover the true nature of these recent mysterious happenings. For the moment, you make your mind up that the best course of action is to try to find Dr. Melatos so you head off in the direction of the physics department while keeping a close eye on your suspicious new ally, Volkas.

Approaching the Physics building your plans are suddenly and abruptly deflated as you realise that it is, in fact, 6am and that it is entirely unlikely that any doors would be open. Ray Volkas, who until now had been at the back of your thoughts, emerges into the spotlight brandishing a keycard for the physics building. "How convenient," you think to yourself. "A little... **too** convenient."

You and Ray charge up the stairs and carefully approach Room 311 to find... nothing. Andrew Melatos' name is on the door under a sign saying "Gravity Wave Research Institute". You start to protest, but Ray silences you with an abrupt gesture. The door is unlocked and a lukewarm cup of coffee sits on the desk but there is no one in. Your heart stops when you see what is lying on Melatos' desk — it is *another small scrap of paper!*

The incredible frequency with which you are coming across small scraps of paper is making you suspicious. This particular small scrap of paper appears to have some experimental results recorded on it. You stuff it in your pocket before Volkas sees you.

You also notice a curious device which has the appearance of seven concentric circles. These circles line up in a strange way — when any two are in line, the others don't seem to line up, no matter which circles one chooses. Pondering this problem for a while you realise that it is possibly a key to something else. Looking around more carefully, you find photos from an electron microscope revealing, etched in figures only nanometers tall a string of numbers on an object which you conclude must be one of the circles.

Feeling tired and suddenly quite hungry, you and Ray decide to go and grab some breakfast so you jot down the string of numbers and go about decoding it over some croissants.

Having had breakfast you walk into the now open Richard Berry building and as you pass the maths office you glance at the winning T-shirt design from the maths meets art competition and quietly smile to yourself, however you are quickly distracted by the door to the head of department's office opening. Out of it comes Dr. Melatos! How could this be? The head, a

distinguished figure carrying a monstrously large thermos of coffee, walks him from the door of his office to the entrance to the maths office and lets him out. He turns towards you and for a split second gives an evil look like none you have ever seen before. Suddenly alarmed you think to yourself, "What's wrong, I've already handed in my Algebra assignment, how could..." you cut yourself off, mid-thought as you realise that it isn't you that he's looking at, but Ray Volkas. "Hello, M," says Ray.

Finding this very suspicious, you lead Ray to INU bar in an attempt to get him slightly inebriated and possibly get him to spill the beans. You sit down and order some chips. Immediately, the image on the big-screen TV grabs your attention. It is a Channel 7 news report about small earth tremors earlier today. Could these possibly be the same sounds that you heard as you exited the catacombs? The report continues about John Howard: "John Howard today silenced the critics when he agreed to take a polygraph test in relation to a certain maritime incident. He appeared to pass the test, but the testers say that the results were infact inconclusive as there appeared to no electrical activity." You glance over at Volkas; his face is frozen with horror.

Platonic

—Julian Assange



The strange piece of paper you found while coming out of the catacombs is heavily creased. It contains six squares each containing 9 squares. On the other side is a stamp! It must be a letter from Greece. ...

			Y	G	W			
			a	t				
			G	O	G			
			a	s	g			
			B	G	G			
			o	m				
W	O	O	Y	B	O	B	R	O
	b	t	e	E		e	r	
O	Y	O	B	B	B	R	G	R
d	t	n				t	u	C
R	O	B	R	B	G	R	R	W
f	w		a		c	a	t	
			Y	Y	B			
			c	r				
			Y	R	Y			
			i	h	h			
			W	Y	G			
			n	e				
			Y	W	R			
			o		r			
			W	W	W			
			O	W	G			
			i		e			

Entropy

—Tharatorn Supasiti

You take the small scrap of paper out of your pocket and look at it. Perhaps this might be useful later to make the picture clearer.

Cases	E	L	V_0	V_f	Ω_A	Q_A	Ω_B	Q_B
(1)	2	13	23	37	41	7	11	79
(2)	11	37	47	53	11	61	47	3
(3)	71	2	23	43	11	7	3	97
(4)	19	11	2	71	23	43	17	17
(5)	2	37	37	23	5	2	5	23
(6)	7	83	23	71	19	83	2	71
(7)	11	61	73	43	7	11	61	53
(8)	61	11	67	67	73	61	11	

Disc

—Julian Assange

Over your croissant, you have another look at the number on the outer disc. It seems like a really difficult problem. You wonder what's special about the circles that makes them behave in the way they do.

37249588852282552285743302297396100822355179407163315972232664422849771058311