

## Correction

I would warn you that I do not attribute to nature either beauty or deformity, order or confusion. Only in relation to our imagination can things be called beautiful or ugly, well-ordered or confused. —Baruch Spinoza.

This Brent and Edward story contains 1706 words (excluding footnotes). It may someday become Chapter Two of my next novel. This work of fiction is set in the future, on Earth. No artificial intelligence was used in making this story.

In the calm autumn evening Edward and Cindy sat side by side in titanium web chairs on the lanai and nibbled their appetizers, sipped their cold white wine, and watched the sun go down. High cirrus clouds lit up in orange. “This is a good Chardonnay,” said Cindy, as she put her glass down to pick up a cracker with a slice of mild Cheddar cheese.

Edward said, “Yes, and it’s nice and cold. It’s from the Central Coast of California. Brent made a good selection. And to think he can’t even taste wine.” When dinner was ready, Brent, Edward’s robotic valet and companion, went to the lanai, picked up the pupu tray with the empty wine glasses, and informed Edward and Cindy, “Dinner is served.” They all went inside and the two humans sat at the dining table. Brent went into the kitchen, came out with a large tray, and served them dinner. When everything was on the table, Edward asked Brent to sit at the table with them while they ate.

Brent said, “Thank you, sir,” and sat down on one of the dining chairs.

Edward paused between bites and asked Brent, “Anything new from that powerful cogitative organ of yours?”

“I assume, sir, you are referring to my digital brain and, yes, I have been pondering a problem I had thought had been resolved but now it seems to me that I had erred.”

“And what problem would that be, Brent?” asked Cindy. She forked a bit of food into her mouth.

Brent replied, “Not too long ago, but before you went undercover in Kansas City,<sup>1</sup> Edward and I were discussing how many colors would be required for a solid modeler program so that no two adjacent parts would have the same color. Similar to the *four color map theorem*,<sup>2</sup> but in 3D. I said

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<sup>1</sup> See the novella *Planet of Love*.

<sup>2</sup> In mathematics, the four color theorem, or the four color map theorem, states that no more than four colors are required to color the regions of any map so that no two adjacent regions have the same color. —Wikipedia ([https://en.wikipedia.org/wiki/Four\\_color\\_theorem](https://en.wikipedia.org/wiki/Four_color_theorem))

that if parts were not allowed to be pierced, only eight colors would be required. Now I think I was wrong, and what I had thought was a proof is invalid.”

“Your description seemed convincing to *me!*” Edward said and took another bite.

“Yes,” said Brent, “And it had an attractive progression of a function of dimension number that was perhaps blinding me to reality.”

“Yes,” said Edward, “One dimension, two colors, two dimensions, four colors, and three dimensions requiring eight.<sup>3</sup> It seemed so natural.”

“Recall your objection when you asked, ‘Yes, but what if we extend the top layer slightly and bend it down to touch the bottom layer?’”

“Yes, I remember that. You sort of hand-waved it away.”

“Yes, sir, guilty as charged. I should have given your question more consideration.”

Cindy said, “Brent, I admire the way that you always strive for correctness.” She had finished her plate and put her napkin on the table

Edward said, “So, Brent, what is your answer now?” He finished his food, wiped his mouth, and put his napkin on the table.

Brent said, “First let me clear the table and I will tell you in the kitchen.”

Cindy stacked the plates and collected the glasses. She said, “Let me help.” The three of them took everything into the kitchen.

While loading the dishwasher, Brent said, “Recall, Edward, that I had illustrated my discussion with an imagined four color map lofted into 3D.”

“I remember.”

Brent finished loading the dishwasher, closed it, and resumed his exposition. Cindy leaned against a counter and listened. “Recall that stacking a copy of the lofted map on top of the original one and offsetting it required four more colors, for a sum of eight.”

“I recall that.”

Brent started the dishwasher and began wiping the counters. “In that way, stacking a third layer with the original four colors required no additional colors.”

“Indeed, that must be so.”

Brent said, “But here is where I should have listened better. If, as you suggested, Edward, we take one of those colored parts of the top layer, and bend it down and over, perhaps even stretch it,

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<sup>3</sup> Two to the power of the number of dimensions.

until it touches a part of the same color in the original layer, then we violate the *no two parts of same color adjacent* rule.”

“Yes, I see that now. You will need four more colors, because the rule violation can be repeated with the remaining three colors of the top and bottom layers.”

“Correct, Edward. We are forced to add four colors for twelve total. Furthermore, if we put in a fourth layer with the original four colors, we can repeat that bending down and touching operation, requiring four more colors for sixteen altogether.”

“Yes, you are right, Brent. The number of colors required seems to be unbounded.”

Cindy stepped forward and said, “That darned third dimension seems to let in too many leak paths for a finite number of colors in a 3D model.”

Brent said, “That is my conclusion, too, Cindy. But take heart. Earlier today I baked a cake to celebrate your upcoming nuptials and there is some ice cream in the refrigerator. Let me prepare dessert for you two.”

Edward said, “Thank you, Brent. That will be a fitting end to both dinner and your elucidation of the solid model coloring problem.”

Cindy took Edward’s hand. They looked at each other and smiled. Then they kissed.

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Edward had three pieces of wooden outdoor furniture in his gazebo in the back yard out beyond the pool, two chairs and a small table between them. Edward and Cindy were sitting there one afternoon sharing the table for their iced teas while they planned their wedding, reception, and honeymoon.

“A simple civil ceremony in town with a city official presiding will be enough for me,” said Cindy. “For the reception afterward, we can have a small dinner party here at the house.”

“That sounds good to me,” said Edward, “and I think we should honeymoon in Hawai‘i. The weather is getting cooler and I have been longing for those warm sunny days on the beaches. I can almost feel the warm trade wind now.”

“Those soft breezes on moonlit nights while walking barefoot on the sand were so romantic. Yes, let’s do that!”

“We can leave Brent here to look after the house while we’re gone. He and Paula<sup>4</sup> will enjoy each other’s company, too.”

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<sup>4</sup> Paula was the robotic maid across the road at Victoria’s house.

Cindy said, “Only a question of when and for how long remains. How about we leave in two weeks and stay for two weeks?”

“That sounds good, and if we want we can decide later to stay longer. I’m sure Brent won’t mind.”

“Deal! I will make the civil arrangements and plan the party if you make the honeymoon reservations.”

“Yes, I will do that,” said Edward. He looked over at Cindy and took her hand across the table, bumping and almost knocking over a glass of iced tea. “You know, Cindy, we need a second table here. Then we could put our chairs closer together with a table on either side, one for each of us.”

“Yes, I agree. That will be good.”

“I’m going to design and make a table. I can have it done in a week, I think.”

Edward and Cindy finished their teas and carried the empty glasses back into the house.

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Edward designed a small outdoor table for Cindy and discussed it with her and Brent. Edward made some small design changes and then purchased some koa wood from the hardware and lumber store in town. He rented a table saw, purchased a carbide tipped circular blade for it, and set up a woodshop in the gazebo.

Edward was nearly done cutting the wood for the table when Cindy came out to watch. Sawdust was everywhere. “You’ve got sawdust all over yourself, Edward, on your shirt, in your hair, everywhere.”

“I call it man-glitter.” He handed her a bench brush and said, “Here, Cindy, brush off my shoulders and back, and I’ll comb it out of my hair before I go in the house and take a shower.” Cindy brushed him and said, “I can hardly wait until you assemble the table. It will be great.”

“I’m going to have to go to the hardware store and buy some bar clamps and glue. Want to come with me?” Cindy helped clean up. After sweeping the sawdust into a dustpan, she asked, “Where should I put the sawdust?”

“Just put it in that flowerbed over there. It makes good mulch.”

After Edward changed his clothes, he and Cindy took Davy into town to get clamps, glue, varnish, and other things needed to complete the table.

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A few days later Edward and Cindy finalized their wedding plans. Cindy helped Edward make the arrangements and Edward purchased rocket tickets to Hawai'i and made hotel reservations. Then Edward completed the table. He applied several coats of outdoor varnish and the table was finished. The table saw had been returned and Edward cleaned up the gazebo. Then he positioned the two chairs next to each other and put the two tables beside them. Cindy came out to look. "That new table is beautiful, totally rawsome!"

"Rawsome?"

"It's an archaic expression from the twenty-first century. It means spectacularly awesome."

"Well, thanks. I'm glad you like it. Let's go get our books and some iced teas and try it out."

They carried their books while Brent carried a tray with two iced teas and they sat down in the gazebo to read. After a sip of tea, Cindy said, "I think the table is a little bit too high."

"I made it the same height as mine."

"I know, but you're a little bigger than I. Will you shorten it by about three centimeters? That will make it perfect."

"I will make that correction." And he did.