Electro

A new approach to an old game

In life it’s all about choices. No, you are not about to read a philosophical article about metaphysics. Although it would be interesting to give an overview of determinism from an Electrical Engineer’s point of view, this article is about a board game all (Dutch) electrical engineers like and how to modify it into an even better version.

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Most of the readers of this article will have at least some affection with Electrical Engineering. It’s interesting to think about how you did end up having interest in electronics (and when doing so we are actually practicing a little bit of metaphysics). Some of us might have the very trivial reason of having a dad or brother who was a hobbyist with electronics (chances of having a female relative with these interests are neglected here). It’s easy to roll into the field if you were grown up among homemade valve audio amplifiers or amateurist radio communication equipment.

Others will agree with the famous Dutch philosopher ‘Baruch Spinoza’, who was representing the theological determinism. According to him we actually didn’t have much of a choice about where to end up in life, because the whole universe is determined by God, until every small detail. Ending up in electronics is equivalent to saying ‘God made me do it’.

Yet another group might not have a very explicit idea of how they ended up doing electronics. When they were finishing high school and exploring the horizon of higher education, at some point they simply chose for Electrical Engineering. It’s hard to grasp what exactly made them do this. Was it the enthusiastic student who guided them around in the building, was it the lightning flash produced in the High Voltage Lab or was it the nice hot-dog with electrocuted sausage served during the lunch? In all of these cases it’s arguable to think that the subconscious mind might have played a big role in your decision: something in the back of your mind suddenly made you choose.

Figure 1. The layout of the Electro game board
And that's the point where the old 'board' game comes in! Generations of (Dutch) children are grown up with board games produced by the company 'Jumbo'. Literally everybody has played 'Ganzebord' and 'Scrabble' with their family members. Another very common game is called 'Electro'. The purpose of the game is to solve puzzles by making pairs of two matching pictures out of a grid consisting of 48 pictures. The match is made by means of an electrical connection with two little wires. When the match was correct a light would switch on, indicating a correct match and resulting in a smile on the children's face.

Having understood the basics of 'Electro', it's trivial to see that this classic board game guarantees hours of fun time for little kids. And although it might sound a little unlikely it is very well possible that, when you were choosing your further education, somewhere in the back of your head a little flashback was made to the 4 year old version of yourself, playing Electro with all the excitement of a little kid.

And now it's time to make that flashback even stronger. In this article you'll find everything you need to make your own version of Electro, completely adapted to the needs of a grown up Electrical Engineer. Have fun playing it and bring back that 4 year old version of yourself!

### Create your own Electro game

The Electro game is actually a very simple form of electrical puzzle. The game consists of two blocks, one on the left and one of the right. These blocks are divided in 24 small squares. Each square on the left corresponds to a square on the right. In this article you'll find an example spread with famous Electrical Engineers and other persons who contributed to the world of Electrical Engineering. In the left plane you can see their pictures, in the right plane you can see their names. On the lower of each square you'll find a black dot.
After cutting out the spread these dots have to be perforated. Those of you who are fortunate to still own a version of the Electro game can put the spread on their original equipment and find small circles of metallic foil right underneath the perforations. The circles of corresponding squares are now connected, and a simple circuit tester consisting of a battery and a lamp will show whether two squares correspond to each other.

Those of you so unfortunate not to own their own copy of the Electro game can buy one, or create one themselves. First draw figure 1 in the right scale on a piece of cardboard, and cut it out. The exact location of the holes can be found by laying the spread on top of it. The hard part is to attach pieces of paper foil on the backside of the plane, and to connect the right pieces to each other. Providing the reader with the right configuration would spoil the puzzle altogether, but interested readers can contact the editorial board of the Maxwell by e-mail, and will be provided with the needed information.

Once the back of the game has been constructed, a circuit tester can be used to check for the right answers. Such a circuit tester can consist of a battery and a lamp or a buzzer, but a multimeter will also suffice.

**Conclusion**

Finally the author would like to apologize for the fact that this article has covered quite a lot of deterministic topics after all. This is against the promise in the introduction. However, the average Electrical Engineer has little interest in philosophy and the introduction was not meant to scare you out. Maybe after all some subconscious part of your brain even let you enjoy it and makes you realize that philosophy is actually not so bad at all!