Code-Breaking on the Armenian Subway

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Solution: **Zoravar Andranik**

The solution to this problem relies on straightforward code-breaking techniques. The English words are transliterations of the Armenian. The article tells us that the Armenian alphabet is phonetic, therefore each letter has its own distinct sound. We need to work out which station is which by deciphering the sounds made by the Armenian letters.

Only one station has three words, **Garegin Njdehi Hraparak**. This word begins with a Գ, so it is likely a “g” sound. Only one other word begins with this letter, which would therefore be the station for **Gortsaranayin**. In fact, we can see only one other station with the Գ sound in the middle of it, and it also happens to be a single word. So this must be **Shengavit**. From this, we can be pretty sure that it is a “g” and that Armenian reads left to right.

We can now deduce that Ա must be an “a,” from seeing it’s relative position in both **Gortsaranayin** and **Shengavit**. Only one direction has at least three stops after **Shengavit**, so we can tell which direction Maya is traveling. The third stop from **Shengavit** has two words, and we know that the second word begins with Ա, or an “a” sound. It must be **Zoravar Andranik**, which we can confirm from the relative positions of the other Ա letters, which correspond to the positions of “a” in the transliteration.

Source: Drago Radev, *North American Computational Linguistics Olympiad 2010*