

Images are Vectors

In [61]:

```
%matplotlib inline

import numpy as np
import matplotlib.pyplot as plt
```

In [62]:

```
from PIL import Image
```

In [63]:

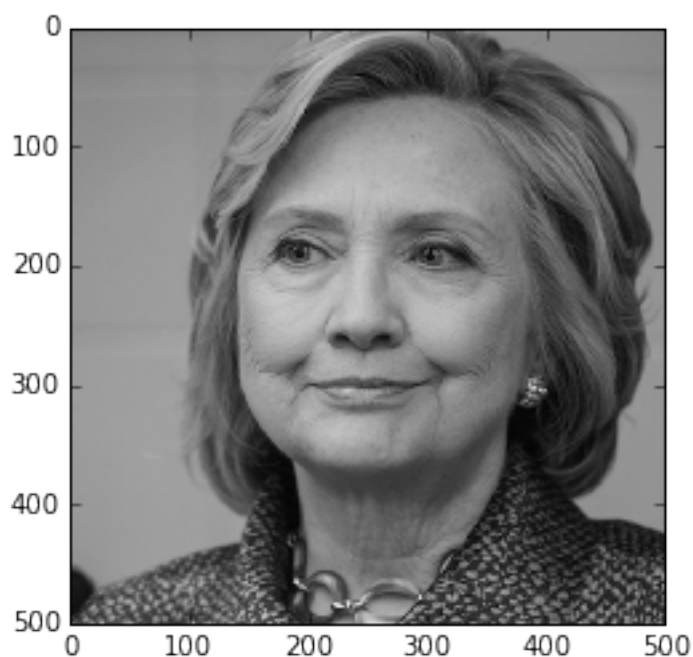
```
def load_image(name):
    with Image.open(name).resize((500, 500)) as img: #this opens the image file
and resizes it to size 500x500x3 (row, column, Red/Blue/Green)
        return np.sum(np.array(img), axis=-1).astype(np.float32)/(3*255) #conver
ts image to numpy array and sums along 3rd axis to convert to grayscale
```

In [70]:

```
hiliary = load_image("Hiliary2.png")
plt.imshow(hiliary, cmap="gray")#plots image with gray colormap
```

Out[70]:

<matplotlib.image.AxesImage at 0x11b184550>

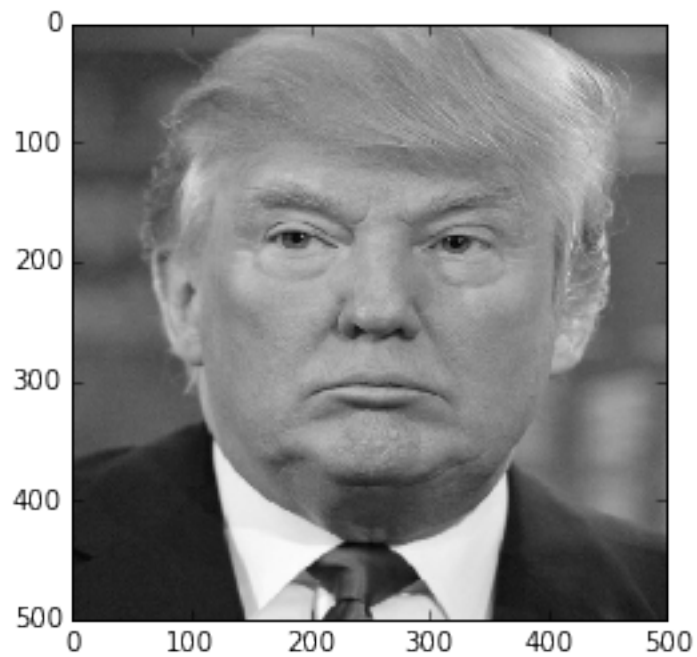


In [65]:

```
donald = load_image("Donald2.png")  
plt.imshow(donald, cmap="gray")
```

Out[65]:

<matplotlib.image.AxesImage at 0x119bf2160>



These are both vectors, right?

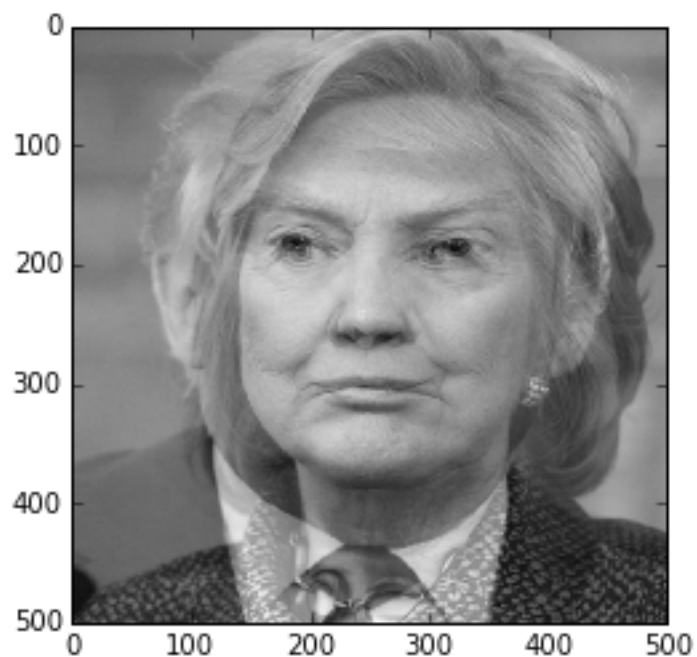
The addition of vectors is a vector...

In [68]:

```
plt.imshow(hilary + donald, cmap="gray")
```

Out[68]:

<matplotlib.image.AxesImage at 0x11a72b048>



In []: