Note: I am Using Scipy v1.1.0. In case of any errors you can install scipy 1.1.0 by the following command: pip install scipy==1.1.0

In [26]:
```
import scipy
scipy.__version__
```

Out[26]:
```
'1.1.0'
```

To download images Click on this url: https://drive.google.com/drive/folders/1pcaTwofZGfoCxZ3Hv2X6vW6xf_1i88eb?usp=sharing (https://drive.google.com/drive/folders/1pcaTwofZGfoCxZ3Hv2X6vW6xf_1i88eb?usp=sharing)

Import Libraries

In [71]:
```
from skimage import data
from scipy.misc import imread, imresize
import numpy as np
from scipy import ndimage
import matplotlib.pyplot as plt
```

Power Law Transformation

Formula of Power Law Transformation is: s =c*r^gamma

Original Image

In [149]:
```
original_image =imread('power_law_transformation.png',True, 'L')    #read image as grey scale image
```

```
C:\ProgramData\Anaconda3\lib\site-packages\ipykernel_launcher.py:1: DeprecationWarning: `imread` is deprecate
d!
`imread` is deprecated in SciPy 1.0.0, and will be removed in 1.2.0.
Use ``imageio.imread`` instead.
  """Entry point for launching an IPython kernel.
```

Processed Image ¶

In [145]:
```
processed_img =original_image.copy()
```

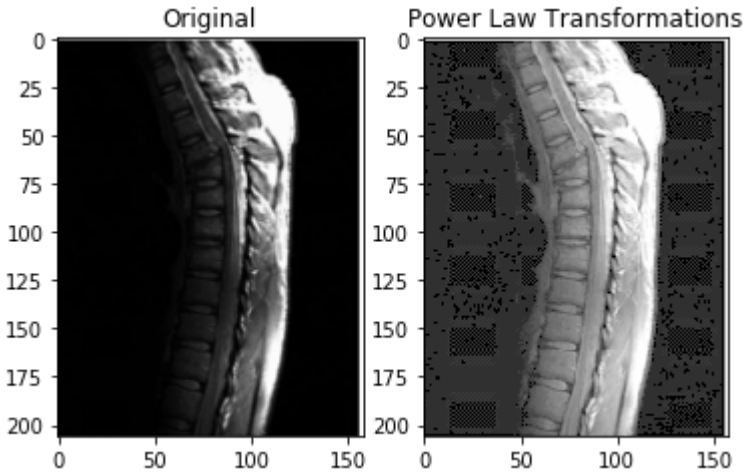
In [150]:
```
c=1
gamma=0.3
processed_img=c*pow(original_image,gamma)
#print(np.amin(processed_img),np.amax(processed_img))
```

In [151]:
```
processed_img[processed_img<0]=0
processed_img[processed_img>=255]=255
```

In [152]:
```
fig, axes = plt.subplots(1, 2)
ax = axes.ravel()

ax[0].imshow(original_image,cmap=plt.cm.gray,interpolation='bilinear')
ax[0].set_title("Original")
ax[1].imshow(processed_img, cmap=plt.cm.gray,interpolation='bilinear')
ax[1].set_title("Power Law Transformations")
plt.imshow(processed_img,cmap=plt.cm.gray)
```

Out[152]:
```
<matplotlib.image.AxesImage at 0x18264ee8488>
```



Demo of Array

In [153]:
```
print(original_image[1:5,1:5])
print(greyscale_image[1:5,1:5])
```

```
[[111. 111. 111. 111.]
 [  0.   0.   0.   0.]
 [  1.   1.   1.   1.]
 [  1.   1.   1.   1.]]
[[255 255 255 255]
 [255 255 255 255]
 [255 255 255 255]
 [255 255 255 255]]
```

In [ ]: