WHAT IS CLAIMED IS:

1. An exposure apparatus that projects a pattern of an original onto a substrate via a projection optical system and exposes the substrate, the apparatus comprising:

an aberration correction member arranged on an optical path of exposure light between the original and the substrate; and

a driver configured to drive the aberration correction member,

wherein the aberration correction member comprises

a first optical element including a first surface having a three-fold rotational symmetric aspherical shape with respect to an optical axis of the exposure light, and

a second optical element spaced apart from the first optical element along the optical axis and including a second surface facing the first surface and having an aspherical shape that is complementary to the aspherical shape of the firstsurface, and

the driver performs at least one of rotation about the optical axis and driving along the optical axis of at least one of the first optical element and the second optical element ~~based on one of data of a shape of a shot region serving as an uderlayer of the substrate, information of a degree of influence of deformation of the substrate, and data of~~ so as to compensate a trapezoidal component of a shape of a shot region of the substrate.

2. The apparatus according to claim 1, wherein when a direction parallel to the optical axis is a Z-axis and directions perpendicular to each other on a plane orthogonal to the Z-axis are an X-axis and a Y-axis, by the driver performing at least one of rotation about the Z-axis and driving along the Z-axis of at least one of the first optical element and the second optical element, lengths of two sides in a direction along the Y-axis and lengths of two sides in a direction along the X-

axis of a shot region are corrected.

3. The apparatus according to claim 1, further comprising a controller configured to control at least one of a rotation amount of rotation about the optical axis and a driving amount of driving along the optical axis.

4. The apparatus according to claim 1, wherein the driver further performs driving in a direction orthogonal to the optical axis of at least one of the first optical element and the second optical element.

5. The apparatus according to claim 1, wherein the aberration correction member is arranged between the original and the projection optical system.

6. The apparatus according to claim 1, wherein the aberration correction member is provided in the projection optical system.

7. The apparatus according to claim 1, wherein the aberration correction member is provided in a reticle stage configured to hold the original.

8. The apparatus according to claim 3, wherein the controller acquires data of a shape of a shot region serving as an underlayer of the substrate and, based on the acquired data, controls at least one of the rotation amount of rotation about the optical axis and the driving amount of driving along the optical axis.

9. The apparatus according to claim 8, further comprising a measurement device configured to measure the shape of the shot region,

wherein the controller acquires the data of the shape of the shot region from the measurement device.

10. The apparatus according to claim 3, wherein the controller acquires information of a degree of influence of deformation of the substrate and, based on the acquired information, controls at least one of the rotation amount of rotation about the optical axis and the driving amount of driving along the optical axis.

11. The apparatus according to claim 10, wherein the information includes information of an order of exposure of a plurality of shot regions of the substrate.

12. The apparatus according to claim 11, wherein the information further includes at least one of an exposure amount with respect to a photoresist on the substrate, a heat storage amount of a substrate stage holding the substrate, a driving time of the substrate stage between the shot regions, and a coefficient of linear expansion, a thermal conductivity, an exposure light reflectance, and a transmittance of the substrate.

13. The apparatus according to claim 1, wherein the trapezoidal component is predicted based on a degree of influence of deformation of the substrate.

14. An article manufacturing method comprising:

exposing a substrate using an exposure apparatus defined in any one of claims 1 to 13, and

developing the exposed substrate,

wherein an article is manufactured from the developed substrate.

15. An exposure apparatus that projects a pattern of an original onto a substrate via a projection optical system and exposes the substrate, the apparatus comprising:

an aberration correction member arranged on an optical path of exposure light between the original and the substrate; and

a driver configured to drive the aberration correction member,

wherein the aberration correction member comprises

a first optical element including a first surface having a three-fold rotational symmetric aspherical shape with respect to an optical axis of the exposure light, and

a second optical element spaced apart from the first optical element along the optical axis and including a second surface facing the first surface and having an aspherical shape that is complementary to the aspherical shape of the first surface, and

the driver performs at least one of rotation about the optical axis and

driving along the optical axis of at least one of the first optical element and the second optical element based on data of a shape of a shot region serving as an underlayer of the substrate.

16. An exposure apparatus that projects a pattern of an original onto a substrate via a projection optical system and exposes the substrate, the apparatus comprising:

an aberration correction member arranged on an optical path of exposure light between the original and the substrate; and

a driver configured to drive the aberration correction member,

wherein the aberration correction member comprises

a first optical element including a first surface having a three-fold rotational symmetric aspherical shape with respect to an optical axis of the exposure light, and

a second optical element spaced apart from the first optical element along the optical axis and including a second surface facing the first surface and having an aspherical shape that is complementary to the aspherical shape of the first surface, and

the driver performs at least one of rotation about the optical axis and driving along the optical axis of at least one of the first optical element and the second optical element based on information of a degree of influence of deformation of the substrate.