CLAIMS:

1. A warhead assembly for a projectile, the warhead assembly comprising

a forward module including a precursor warhead;

an aft module including a main warhead; and

a deployment system configured for selectively deploying the warhead assembly from a retracted configuration to a deployed configuration, at predetermined conditions, to thereby provide a longitudinal displacement between the forward module and the aft module;

wherein said deployment system includes an expansion member accommodated between the forward module and the aft module, the expansion member configured for being longitudinally expanded under said predetermined conditions to thereby increase a longitudinal dimension of the expansion member and thereby urge the forward module and the aft module away from one another to provide said longitudinal displacement;

wherein said expansion member is in the form of an inflatable member;

wherein said deployment system includes an actuation system for selectively inflating the inflatable member to provide said deployed configuration; and

wherein said inflatable member includes a balloon-type body; and wherein said forward module includes a first side wall, and said aft module includes a second side wall;

wherein the forward module includes a nose of the projectile, and wherein said nose and said first side wall have an unchanged profile between the retracted configuration and the deployment configuration.

2. The warhead assembly according to claim 1, wherein said forward module and said aft module are telescopically movable longitudinally with respect to one another.

3. The warhead assembly according to claim 2, wherein at least one of:

said first side wall and said second side wall are telescopically movable longitudinally with respect to one another; or

said expansion member is different from said first side wall or said second side wall.

4. The warhead assembly according to claim 1, wherein said actuation system includes a pressurized gas vessel having an outlet and a valve, the valve being operable to open under said predetermined conditions to allow fluid communication between said pressurized vessel and said inflatable member.

5. The warhead assembly for a projectile, the warhead assembly comprising

a forward module including a precursor warhead;

an aft module including a main warhead; and

a deployment system configured for selectively deploying the warhead assembly from a retracted configuration to a deployed configuration, at predetermined conditions, to thereby provide a longitudinal displacement between the forward module and the aft module;

wherein said deployment system includes an expansion member accommodated between the forward module and the aft module, the expansion member configured for being longitudinally expanded under said predetermined conditions to thereby increase a longitudinal dimension of the expansion member and thereby urge the forward module and the aft module away from one another to provide said longitudinal displacement,

wherein said expansion member is in the form of an inflatable member;

wherein said deployment system includes an actuation system for selectively inflating the inflatable member to provide said deployment configuration and

wherein said inflatable member includes a bellows-type body; and wherein said forward module includes a first side wall, and said aft module

includes a second side wall;

wherein the forward module includes a nose of the projectile, and wherein said nose and said first side wall have an unchanged profile between the retracted configuration and the deployment configuration.

6. The warhead assembly according to claim 4, wherein said actuation system includes a pyrotechnic actuator configured for causing the valve to open under said predetermined conditions.

7. A warhead assembly for a projectile, the warhead assembly comprising

a forward module including a precursor warhead;

an aft module including a main warhead; and

a deployment system configured for selectively deploying the warhead assembly from a retracted configuration to a deployed configuration, at predetermined conditions, to thereby provide a longitudinal displacement between the forward module and the aft module;

wherein said deployment system includes an expansion member accommodated between the forward module and the aft module, the expansion member configured for being longitudinally expanded under said predetermined conditions to thereby increase a longitudinal dimension of the expansion member and thereby urge the forward module and the aft module away from one another to provide said longitudinal displacement;

wherein said forward module and said aft module are telescopically movable longitudinally with respect to one another;

wherein said forward module includes a first side wall, and said aft module includes a second side wall;

wherein the forward module includes a nose of the projectile, and wherein said nose and said first side wall are exposed both in the retracted configuration and in the deployed configuration; and

wherein said nose and said first side wall have an unchanged profile between the retracted configuration and the deployed configuration.

8. The warhead assembly according to claim 1, wherein the forward module includes a seeker head.

9. The warhead assembly according to claim 1, wherein said forward portion and said aft portion have respective external diameters that are within ±10% of one another.

10. The warhead assembly according to claim 1, wherein said predetermined conditions include at least one of:

a measure of a velocity or acceleration indicative of the projectile having been fired from a weapons barrel or other launch equipment and is now free thereof;

a predetermined time period after the projectile is fired from a weapons barrel or other launch equipment and is now free thereof; or

the warhead assembly having reached a particular height, or range.

11. A projectile, comprising the warhead assembly according to claim 1.

12. A projectile according to claim 11, configured as one of a shell, a rocket or a missile.

13. A method for operating a warhead assembly, the method comprising:

providing the warhead assembly according to claim 1; and

selectively deploying the warhead assembly from the retracted configuration to the deployed configuration under said predetermined conditions.

14. A deployment system for a warhead assembly for a projectile, the warhead assembly including a forward module having a precursor warhead and an aft module including a main warhead;

said deployment system configured for selectively deploying the warhead assembly from a retracted configuration to a deployed configuration, at predetermined conditions, to thereby provide a longitudinal displacement between the forward module and the aft module;

wherein said deployment system includes an expansion member configured for being accommodated between the forward module and the aft module, and configured for being longitudinally expanded under said predetermined conditions to thereby increase a longitudinal

dimension of the expansion member and thereby urge the forward module and the aft module away from one another to provide said longitudinal displacement;

wherein said expansion member is in the form of an inflatable member;

an actuation system for selectively inflating the inflatable member to provide said deployed configuration;

wherein said inflatable member includes a balloon-type body; and

wherein said forward module includes a first side wall, and said aft module includes a second side wall;

wherein the forward module includes a nose of the projectile, and wherein said nose and said first side wall have an unchanged profile between the retracted configuration and the deployment configuration.

15. The deployment system according to claim 14, wherein, the first side wall and the second side wall being telescopically movable longitudinally with respect to one another, and wherein said expansion member is different from said first side wall or said second side wall.

16. The deployment system according to claim 14, wherein said actuation system includes a pressurized gas vessel having an outlet and a valve, the valve being operable to open under said predetermined conditions to allow fluid communication between said pressurized vessel and said inflatable member.

17. The deployment system according to claim 14,

wherein said actuation system includes a pyrotechnic actuator configured for causing the valve to open under said predetermined conditions.

18. A warhead assembly for a projectile, the warhead assembly comprising

a forward module including a precursor warhead;

an aft module including a main warhead; and

a deployment system configured for selectively deploying the warhead assembly from a retracted configuration to a deployed configuration, at predetermined conditions, to thereby provide a longitudinal displacement between the forward module and the aft module;

wherein said deployment system includes an expansion member accommodated between the forward module and the aft module, the expansion member configured for being longitudinally expanded under said predetermined conditions to thereby increase a longitudinal dimension of the expansion member and thereby urge the forward module and the aft module away from one another to provide said longitudinal displacement;

wherein said forward module and said aft module are telescopically movable longitudinally with respect to one another;

wherein said forward module includes a first side wall, and said aft module includes a second side wall;

wherein the forward module includes a nose of the projectile, and wherein said nose and said first side wall have an unchanged profile between the retracted configuration and the deployed configuration.

19. A deployment system for a warhead assembly for a projectile, the warhead assembly including a forward module having a precursor warhead and an aft module including a main warhead;

said deployment system configured for selectively deploying the warhead assembly from a retracted configuration to a deployed configuration, at predetermined conditions, to thereby provide a longitudinal displacement between the forward module and the aft module;

wherein said deployment system includes an expansion member configured for being accommodated between the forward module and the aft module, and configured for being longitudinally expanded under said predetermined conditions to thereby increase a longitudinal dimension of the expansion member and thereby urge the forward module and the aft module away from one another to provide said longitudinal displacement;

wherein said expansion member is in the form of an inflatable member;

an actuation system for selectively inflating the inflatable member to provide said deployed configuration; and

wherein said inflatable member includes a bellows-type body; and wherein said forward module includes a first side wall, and said aft module includes a second side wall;

wherein the forward module includes a nose of the projectile, and wherein said nose and said first side wall have an unchanged profile between the retracted configuration and the deployed configuration.