CLAIMS

What is claimed is:

1. A downhole apparatus comprising:

a tubular body, the tubular body having first and second ports in a wall thereof; and

a valve arrangement, the valve arrangement having:

a locked first configuration, in which the first port is closed and the second port is closed;

a locked second configuration, in which the first port is open and the second port is closed; and

a third configuration, in which the first port is closed and the second port is open.

2. The downhole apparatus or valve arrangement of claim 1, wherein the valve arrangement has a first intermediate configuration between the locked first configuration and the locked second configuration, in which the valve arrangement is unlocked and the first and second ports are closed.

3. The downhole apparatus or valve arrangement of claim 2, wherein the valve arrangement has a second intermediate configuration between the locked second configuration and the third configuration, in which the valve arrangement is unlocked and the first and second ports are closed.

4. The downhole apparatus or valve arrangement of any preceding claim, wherein the valve arrangement has a fourth configuration, in which the first port is closed and the second port is closed, and wherein the fourth configuration is achieved by mechanical intervention.

5. The downhole apparatus or valve arrangement of any preceding claim, wherein the valve arrangement is a fluid pressure-responsive valve arrangement, or a hydraulically-actuated valve arrangement, and wherein the first configuration is associated with a first fluid pressure, the second configuration is associated with a second fluid pressure, the second fluid pressure being higher than the first fluid pressure, and the third configuration is associated with a third

fluid pressure, the third fluid pressure being lower than the second fluid pressure, and optionally wherein the first fluid pressure is approximately 0psi (approx. 0bar), the second fluid pressure is between approximately 2000psi (approx. 138bar) to 4000psi (approx. 275bar) and the third fluid pressure is between approximately 0psi (approx. 0bar) and 350psi (approx. 24bar), or between approximately 0psi (approx. 0bar) and 800psi (approx. 55bar).

6. The downhole apparatus or valve arrangement of any preceding claim, wherein the valve arrangement includes a valve member, the valve member including a first port, the first port being associated with the first port of the tubular body, and a second port, the second port being associated with the second port of the tubular body, and wherein the valve member is operable to:

close the first and second ports in the first configuration;

open the first port in the second configuration and close the second port in the second configuration;

close the first port in the third configuration and open the second port in the third configuration;

close the first and second ports in the fourth configuration;

close the first and second ports in the first intermediate configuration; and

close the first and second ports in the second intermediate configuration.

7. The downhole apparatus or valve arrangement of claim 6, wherein the downhole apparatus further comprises a biasing device, the biasing device being operable to apply a biasing force to the valve member, and wherein the valve member is biased by the biasing device towards a position where the second port is open.

8. The downhole apparatus or valve arrangement of claim 7, wherein either

(i) the valve arrangement comprises one or more locking devices, the locking devices being configured to releasably lock the valve member in place relative to the tubular bod ; and/or

(ii) the valve arrangement comprises one or more primary retaining members and one or more secondary retaining members, the primary retaining members being configured to releasably hold the valve arrangement in the locked first configuration and the secondary retaining members being configured to releasably hold the valve arrangement in the locked second configuration.

9. The downhole apparatus or valve arrangement of any of claims-claims 6, 7 and 8, wherein either

(i) the first port is configured to permit fluid to flow through the port in one direction and prevent fluid to flow through the port in an opposite direction, and wherein the first port provides fluid communication with a tool or a device; and/or

(ii) wherein the second port provides fluid communication between the interior of the tubular body and the exterior of the tubular body, or between the exterior of the tubular body and the interior of the tubular body.

10. The downhole apparatus or valve arrangement of any of claims-claim 6, 7, 8 and 9, wherein the downhole apparatus comprises two or more valve arrangements, each valve arrangement being associated with a first port and a second port, or a pair of first and second ports, and wherein each valve arrangement is associated with a respective downhole tool or device.

11. A downhole apparatus comprising:

a tubular body, the tubular body having two or more pairs of first and second ports in a wall thereof; and

two or more valve arrangements, each valve arrangement being associated with a pair of first and second ports, and wherein each valve arrangement has:

a locked first configuration, in which the first port is closed and the second port is closed;

a locked second configuration, in which the first port is open and the second port is closed; and

a third configuration, in which the first port is closed and the second port is open.

12. A method of operating a valve arrangement of a downhole apparatus comprising a tubular body having first and second ports in a wall thereof, the method comprising the steps of:

operating the valve arrangement from a locked first configuration, in which the first port is closed and the second port is closed, to a locked second configuration, in which the first port is open and the second port is closed; and

operating the valve arrangement from the locked second configuration to a third configuration, in which the first port is closed and the second port is open.

13. The method of claim 12, wherein the method comprises:

an initial step of running the downhole apparatus into a bore hole, the apparatus being in the locked first configuration in this step;

unlocking the valve arrangement from the locked first configuration and moving the valve arrangement to a first intermediate configuration between the locked first configuration and the locked second configuration, in which the valve arrangement is unlocked and the first and second ports are closed; and

unlocking the valve arrangement from the locked second configuration and moving the valve arrangement to a second intermediate configuration between the locked second configuration and the third configuration, in which the valve arrangement is unlocked and the first and second ports are closed.

14. The method of claim 12, wherein the method comprises the further steps of:

locking the valve arrangement in the third configuration; and

operating the valve arrangement from the third configuration to a fourth configuration, in which the first port is closed and the second port is closed, and optionally

wherein the valve arrangement is a fluid pressure-responsive valve arrangement, or a hydraulically-actuated valve arrangement, and wherein the method comprises the step of

applying fluid pressure to the valve arrangement to move the valve arrangement from the locked first configuration to the locked second configuration.

15. The method of claim 12, wherein the method comprises the step of operating the valve member to:

close the first and second ports in the locked first configuration;

open the first port and close the second port in the locked second configuration;

close the first port and open the second port in the third configuration; close the first and second ports in the fourth configuration;

close the first and second ports in the first intermediate configuration; and close the first and second ports in the second intermediate configuration, and optionally

wherein the method comprises the step of applying a biasing force to the valve member to move the valve member to a position where the second port is open.