CLAIMS

1. A method of casting, comprising:
   introducing via a pour cup a first molten alloy into a mold, a downsprue extending downwardly from a base of the pour cup;
   partially solidifying the first molten alloy to form a solidified section and block the downsprue, with a remaining molten portion on the solidified section; and
   introducing via said pour cup a second molten alloy into the mold such that the remaining molten portion and the second molten alloy at least partially mix, the first molten alloy and second molten alloy differing in chemistry.

2. The method of claim 1 wherein:
   the introduction of the second molten alloy is a continuous pour of the second molten alloy to both form the mixture and form a further portion after solidifying the mixture.

3. The method of claim 1 wherein:
   the introduction of the second molten alloy comprises:
      a first pour of the second molten alloy whereafter the mixture is solidified; and
      a second pour onto the solidified mixture and solidifying to form another solidified section such that the solidified mixture metallurgically bonds the solidified sections together.

4. A method of casting a blade, the blade having an attachment root and an airfoil, the airfoil having a proximal end and a distal end, the method comprising:
   introducing a molten alloy into a mold through a pour cup and a downsprue extending downwardly from a base of the pour cup; and
   varying a composition of the introduced alloy during the introduction so as to produce a compositional variation, the compositional variation providing a density variation of at least 3%,

wherein:
   the introducing and varying comprise:

a bottom-feed pour followed by at least one top-feed pour, both through a single said pour cup, said top feed pour being introduced on or atop an at least partially solidified section of said molten alloy that locally blocks the downsprue.

5. The method of claim 4 wherein:
the compositional variation includes variation along the airfoil.

6. The method of claim 4 wherein:
the compositional variation provides an outboard portion of the blade with a lower density than an inboard portion of the blade.

7. The method of claim 4 wherein:
the compositional variation provides an outboard portion of the airfoil with a lower density than an inboard portion of the airfoil.

8. The method of claim 4 wherein:
the compositional variation provides three compositional zones with transitions between adjacent zones.

9. The method of claim 8 wherein:
the three compositional zones comprise a first zone at least partially along the attachment root, a second zone at least partially along the airfoil and a third zone outboard of the second zone.

10. The method of claim 4 further comprising:
at least partially during the introduction, cooling the mold so as to solidify the introduced alloy to form said at least partially solidified section, the varying occurring at least partially during the solidifying.

11. The method of claim 4 wherein:
the blade has a shroud at the airfoil distal end;

at least a portion of the shroud has a lower density than at least a portion of the airfoil.

12. The method of claim 4 wherein:
the blade comprises a nickel-base superalloy.

13. The method of claim 4 wherein:
the blade comprises a single crystal or directionally solidified columnar grain microstructure extending across two zones of different composition and a transition therebetween.

14. The method of claim 4 wherein:
the blade has a density variation of 6-10%.

15. A method of casting a blade, the blade having an attachment root and an airfoil, the airfoil having a proximal end and a distal end, the method comprising:
introducing a molten alloy into a mold; and
varying a composition of the introduced alloy during the introduction so as to produce a compositional variation,
wherein:
the introducing and varying comprise:
introducing a first alloy to a mold cavity along a first flow path through a first port; and
introducing a second alloy, differing in composition from the first alloy, to the mold cavity along a second flow path through a second port but not through the first port, wherein the first flow path and second flow path overlap along a portion of a downsprue; and
the first alloy has solidified in the downsprue to block the first port by the time the second alloy is introduced.

16. The method of claim 15 wherein:
the first flow path and second flow path overlap from a pour cup.

17. The method of claim 15 wherein:

the first flow path passes through a grain starter and the second flow path bypasses the grain starter.

18. The method of claim 15 wherein:

the introducing and varying further comprise:

introducing a third alloy, differing in composition from the first alloy and second alloy, to the mold cavity along a third flow path through a third port but not through the first port or second port.