```
Γ1[vd_VD] := Module[{js, s1, i1, j1, s2, i2, j2},
  js = Cases[vd, X_[_, j_] :> j] ⋂ Cases[vd, X_[i_, _] :> i - 1];
  If[Length[js] == 0, vd,
   j1 = RandomChoice[js]; i2 = j1 + 1;
   Cases[vd, X_s_[i_, j1] :> (s1 = s; i1 = i)];
   Cases[vd, X_s_[i2, j_] :> (s2 = s; j2 = j)];
   Tidy@Join[Complement[vd, VD[X_s1[i1, j1], X_s2[i2, j2]]],
     VD[X_s2[j1, j2], X_s1[i1, i2], X_s1 s2[i1 - s1 / 3, j2 + s2 / 3],
      X_-s1 s2[i1 + s1 / 3, j2 - s2 / 3]]
     ] ]]
```