```
c@𝒜[is_, os_, cs_, w_] := Fold[c#2,#2[#1] &, 𝒜[is, os, cs, w], is ⋂ os]
𝒜[{A_𝒜}] := c[A];
𝒜[{A1_𝒜, As__𝒜}] := Module[{A2},
  A2 = First@MaximalBy[{As}, Length[A1[[1]] ⋂ #[[2]]] + Length[A1[[2]] ⋂ #[[1]]] &];
  𝒜[Join[{c[A1 A2]}, DeleteCases[{As}, A2]]] ]
𝒜[Os_List] := 𝒜[𝒜 /@ Os]
```