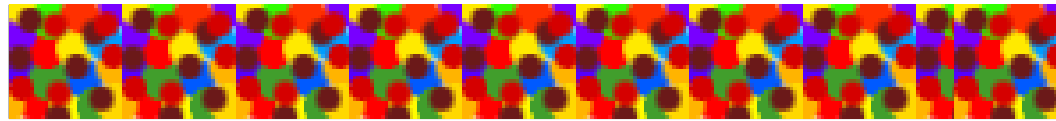
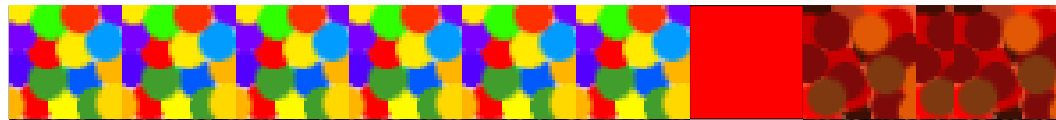


Arbres binaires de recherche

Idée qui vient du tri rapide



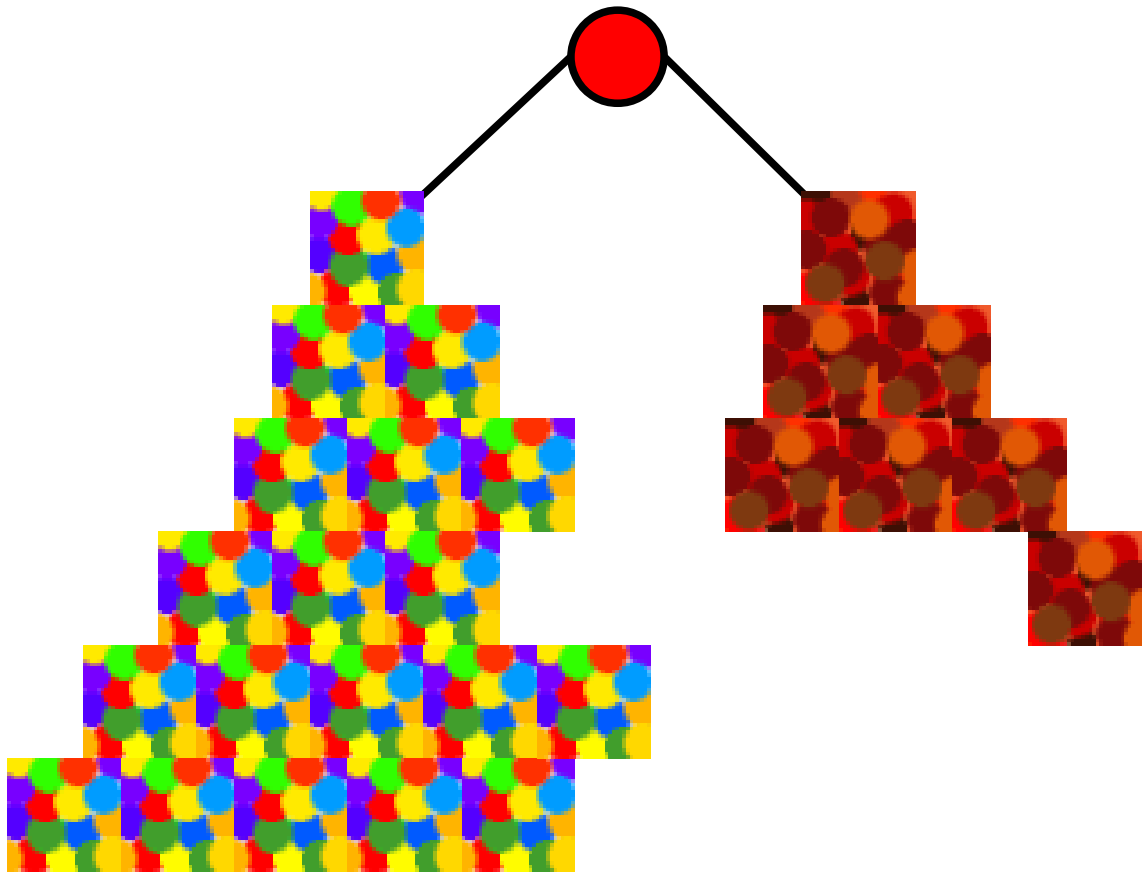
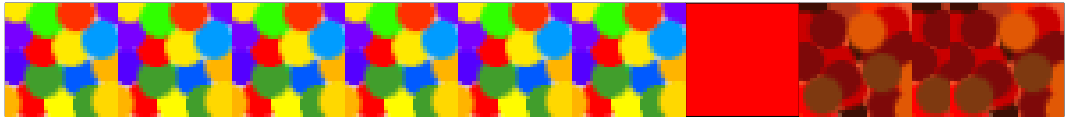
diviser

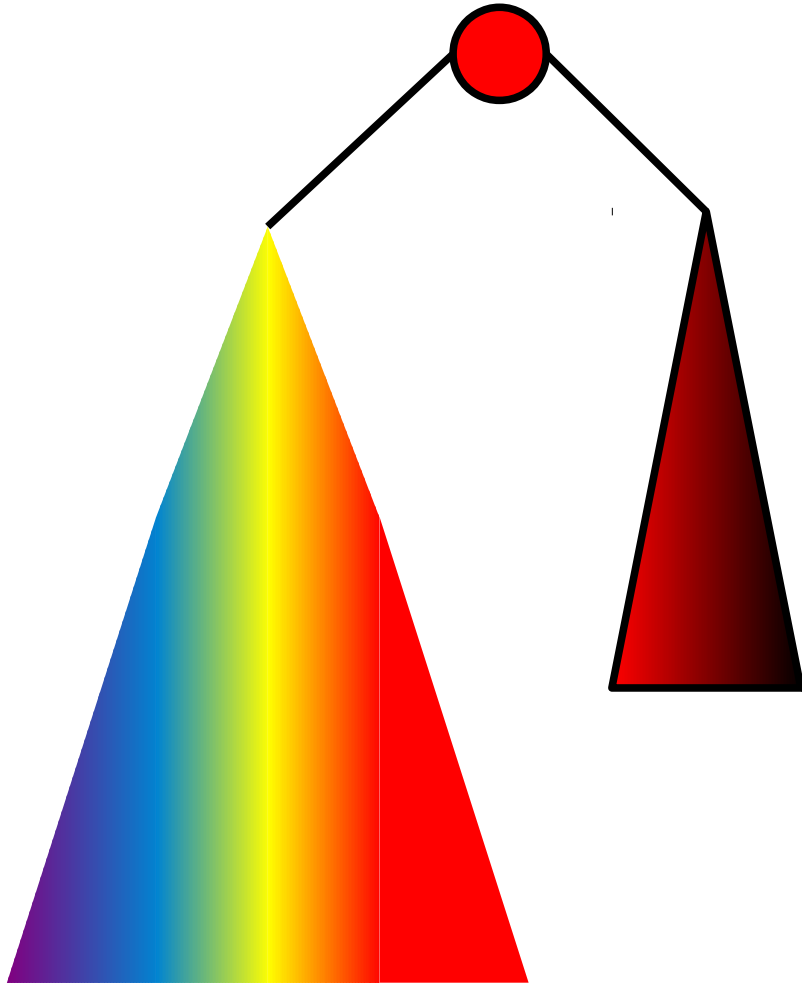
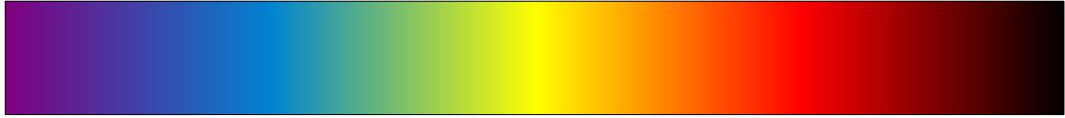


régner

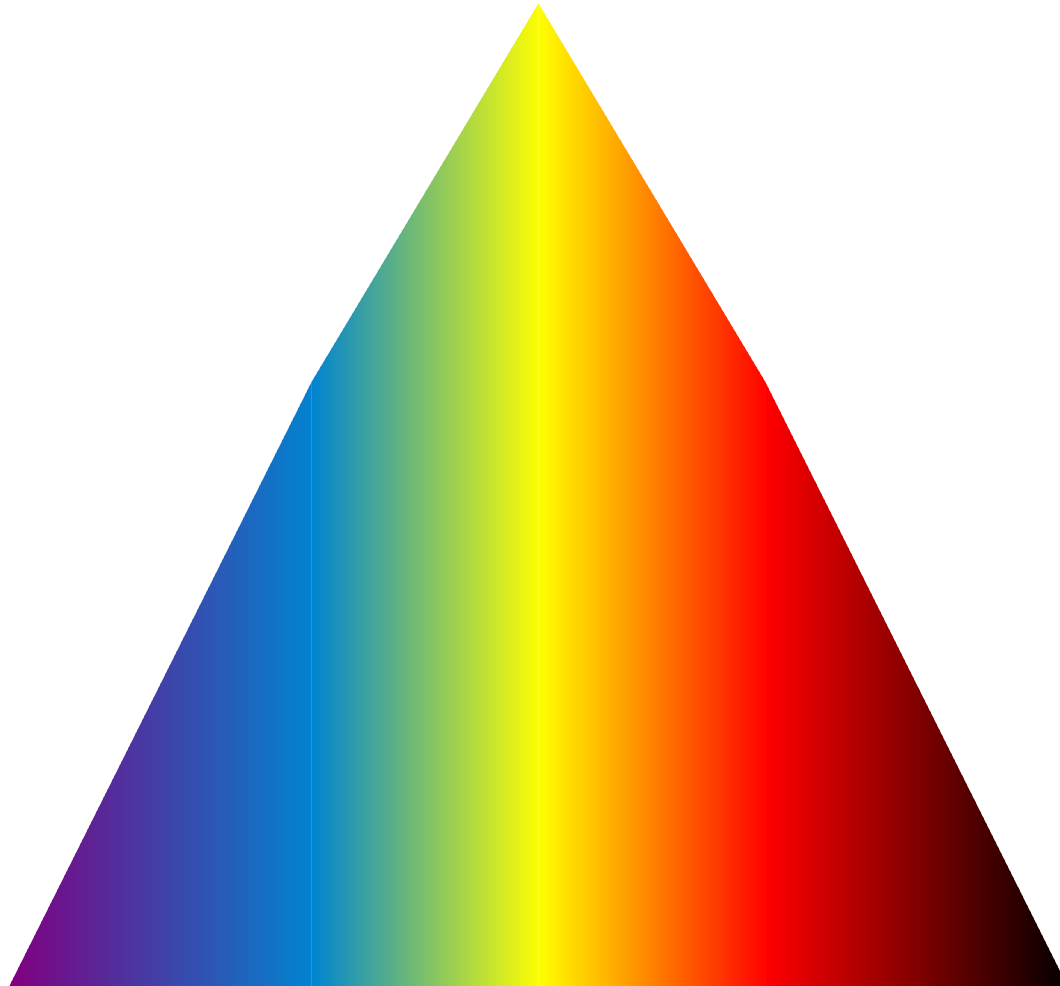
régner



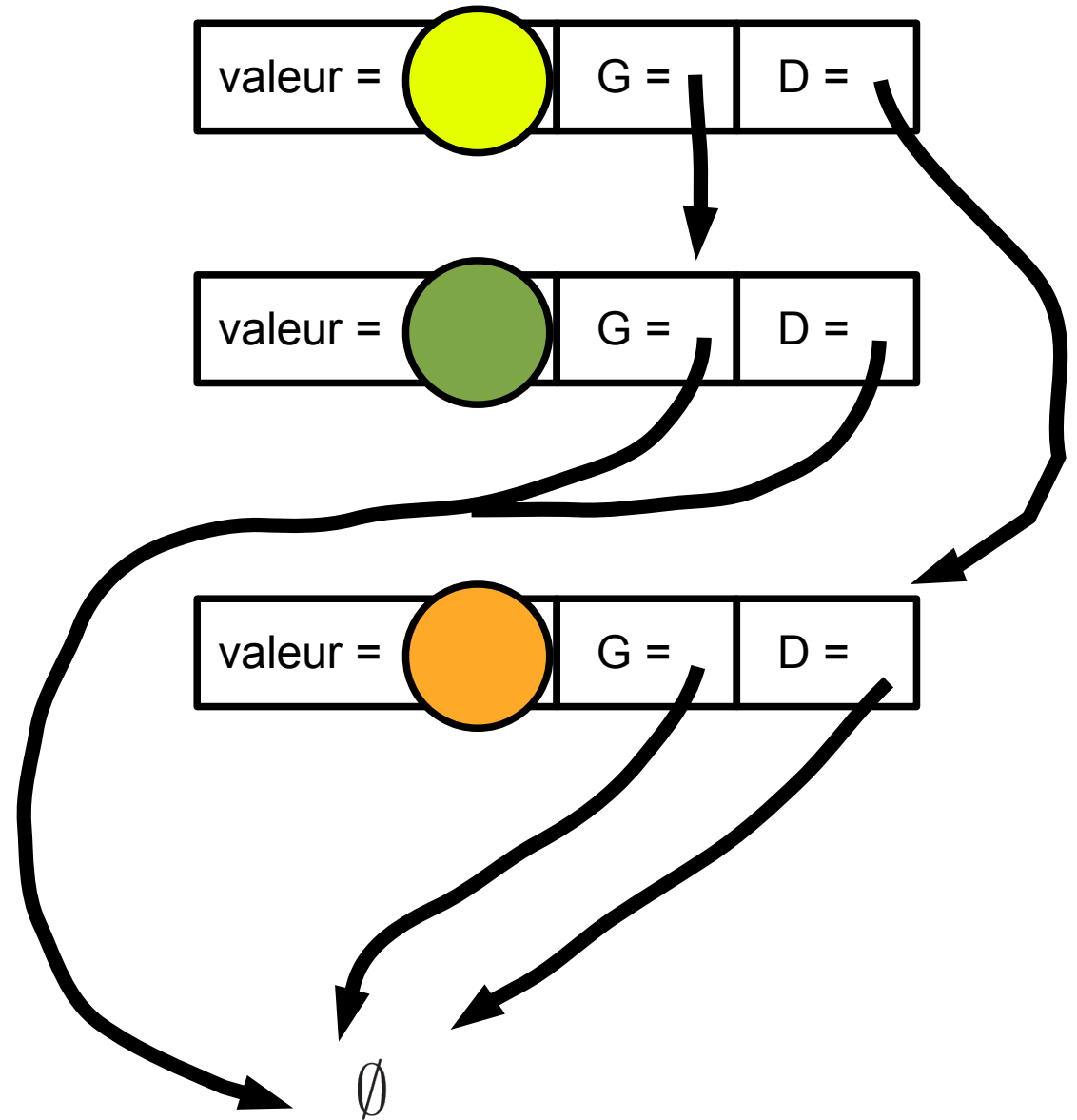
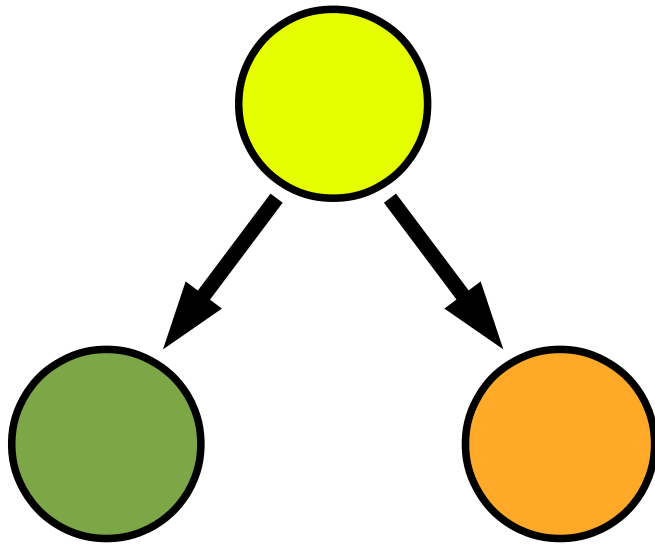




Un arbre de recherche



Représentation en machine



Etude de cas

Etude de cas(T)

\emptyset

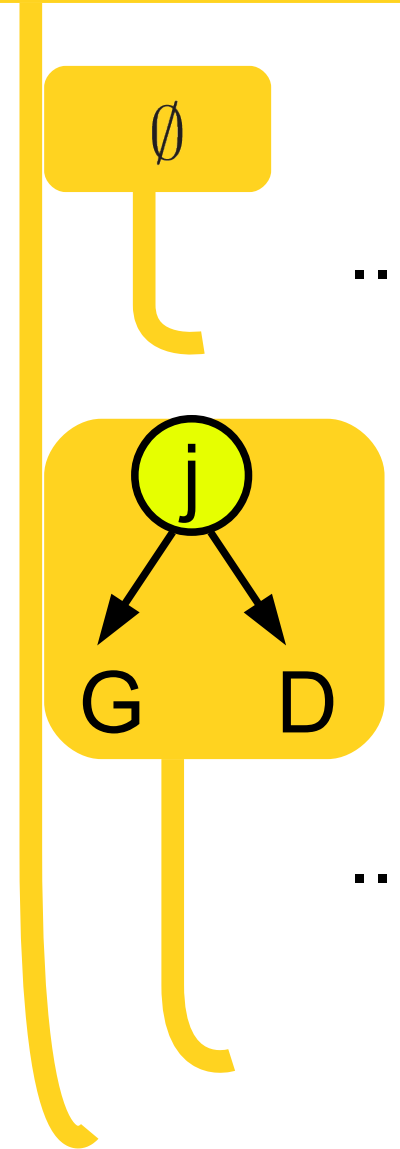
...

j

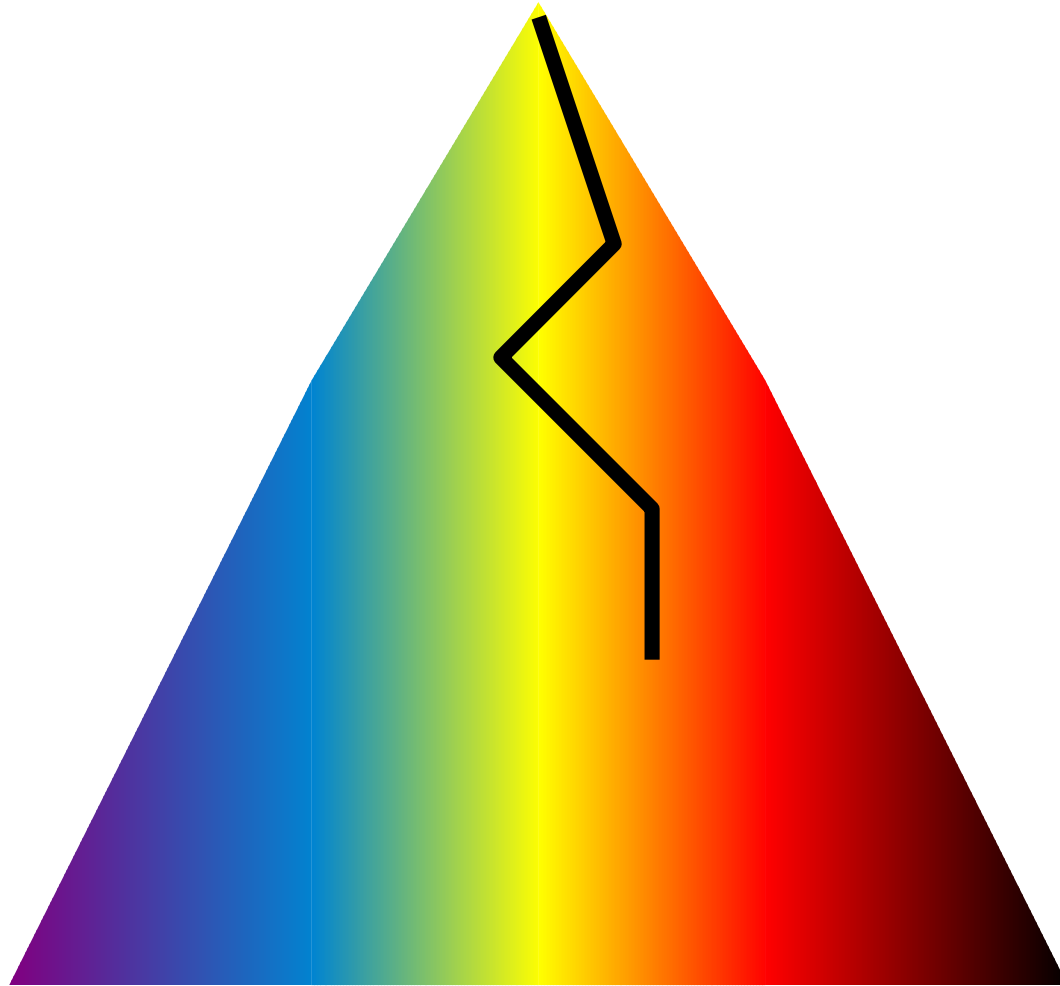
G

D

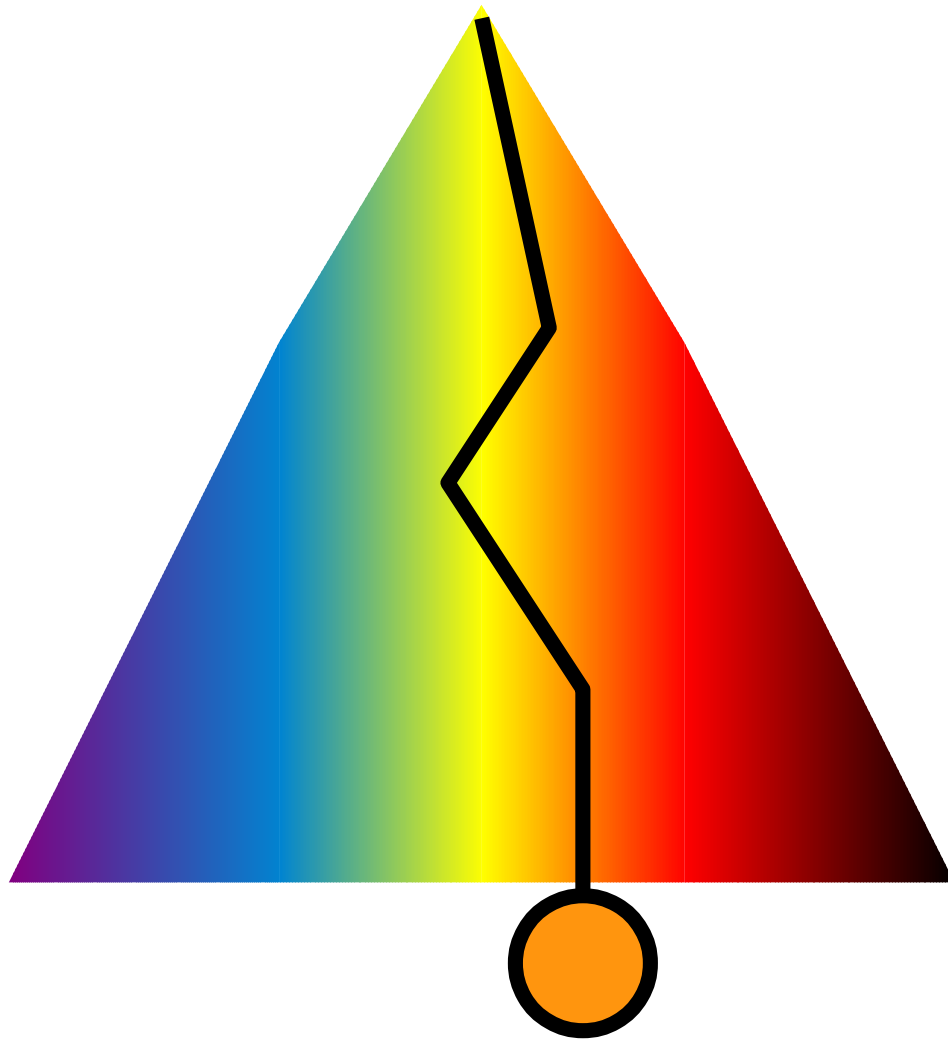
...



Rechercher 

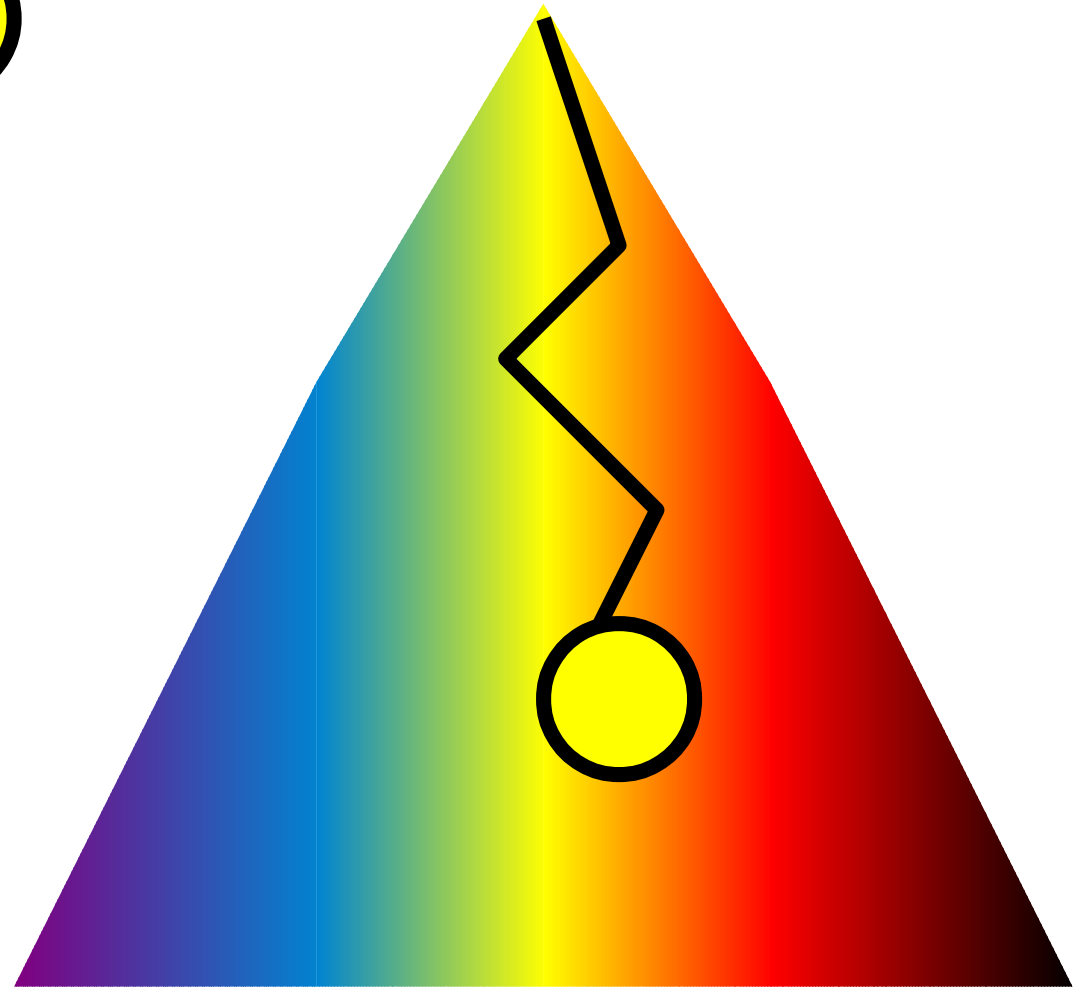
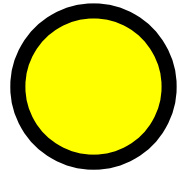


Ajouter 



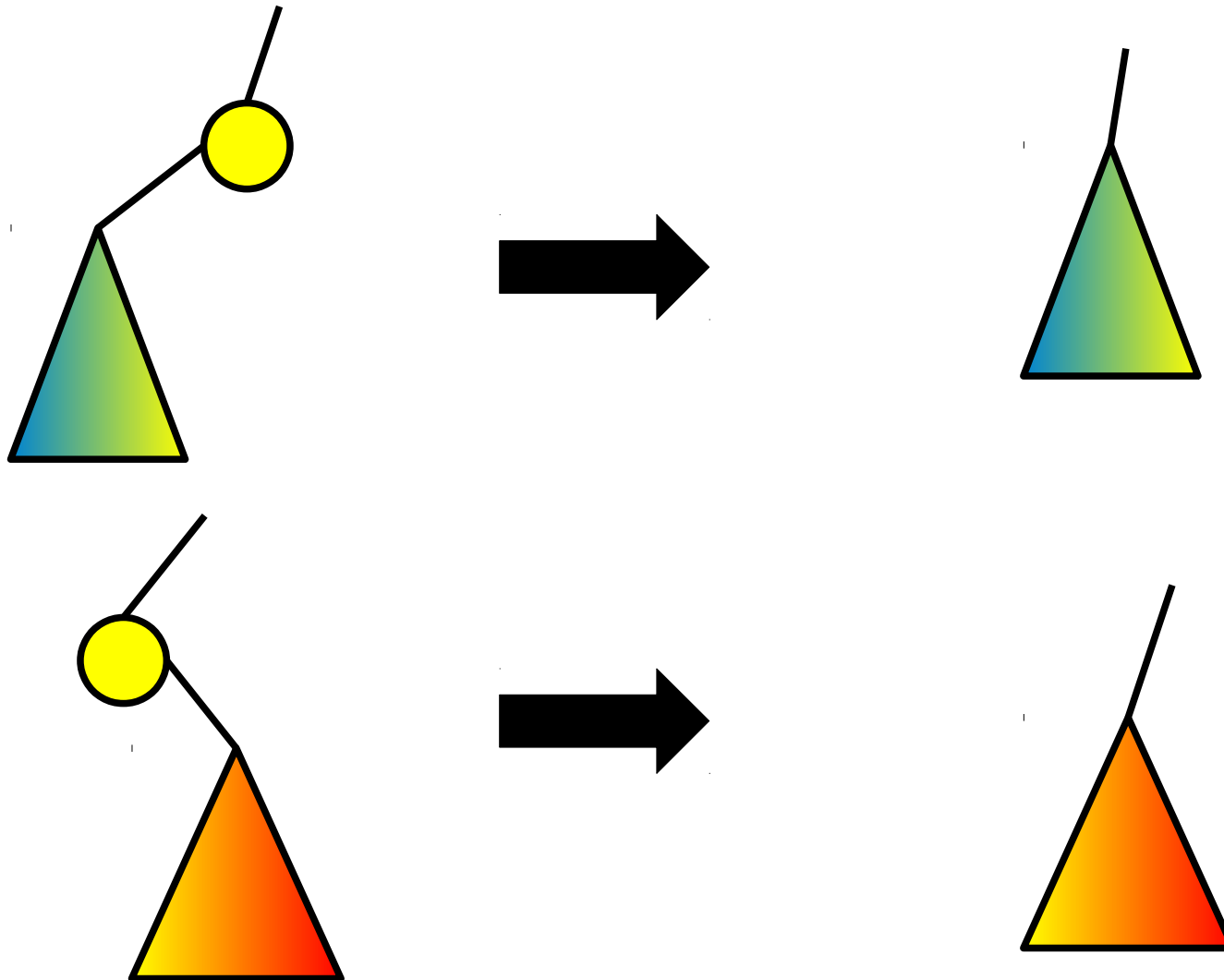
Supprimer

1) Recherchons



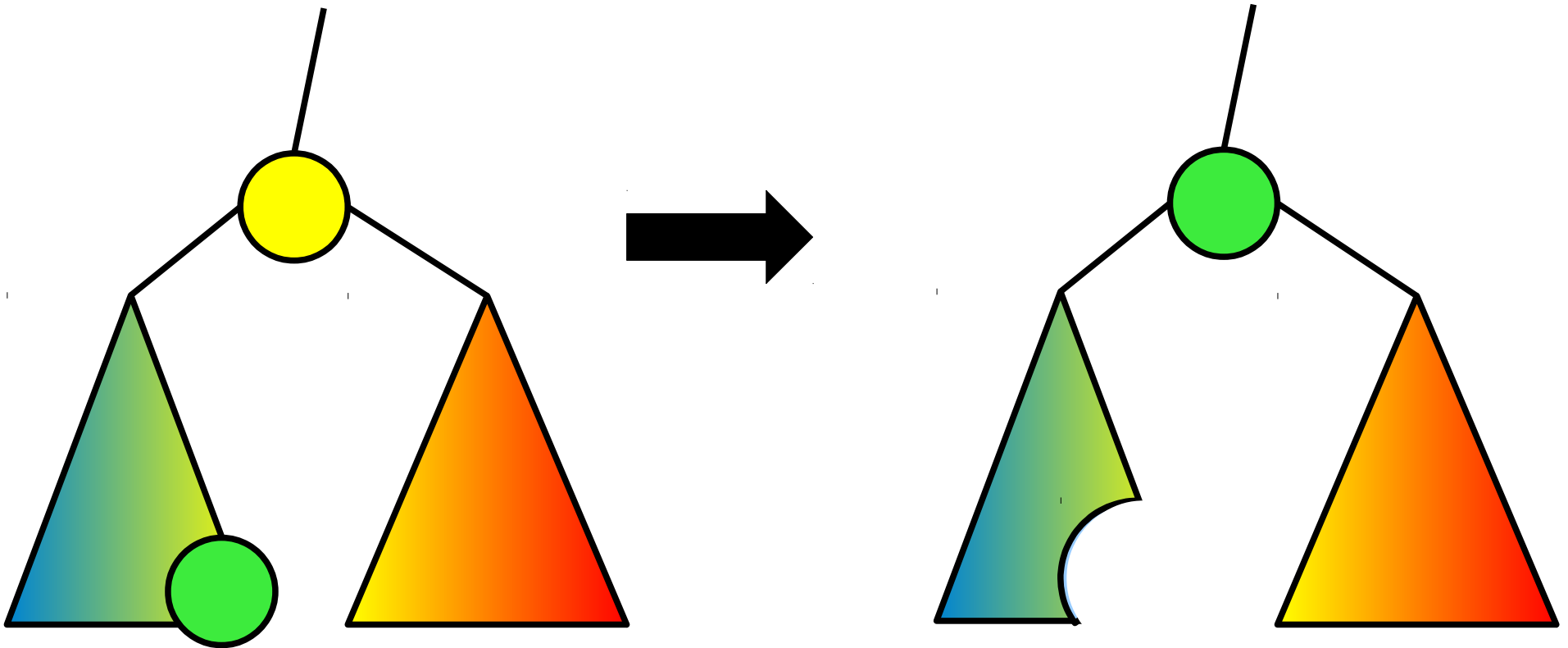
Supprimer

2) Supprimons effectivement



Supprimer

2) Supprimons effectivement



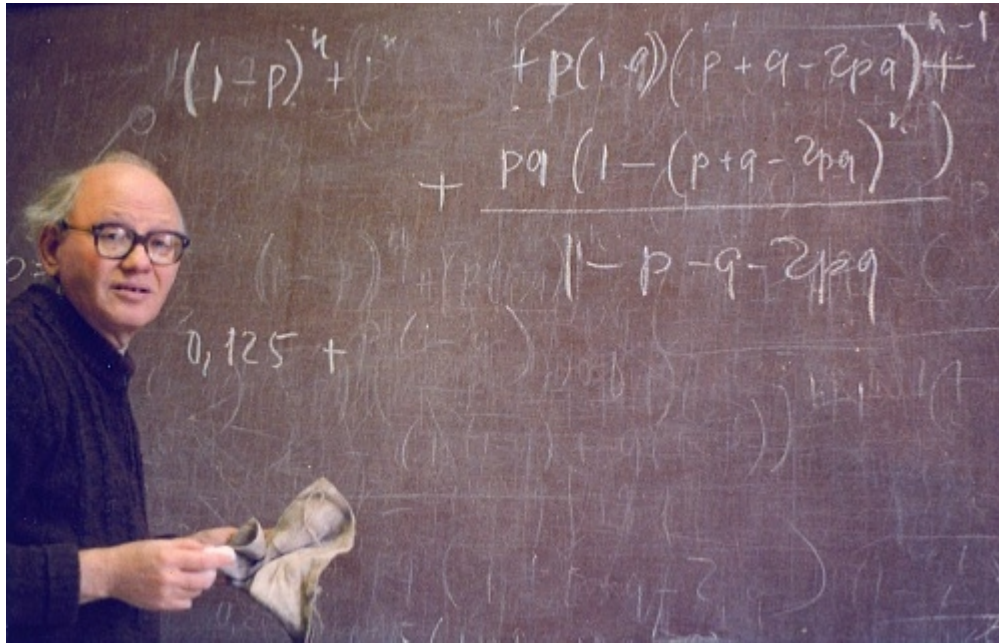
Complexités

	rechercher	ajouter	supprimer
Arbre binaire de recherche	$O(h)$	$O(h)$	$O(h)$

Souhait : On veut une hauteur h optimale

On veut un arbre équilibré

Arbres binaires de recherche de type AVL (Adelson-Velsky, Landis)

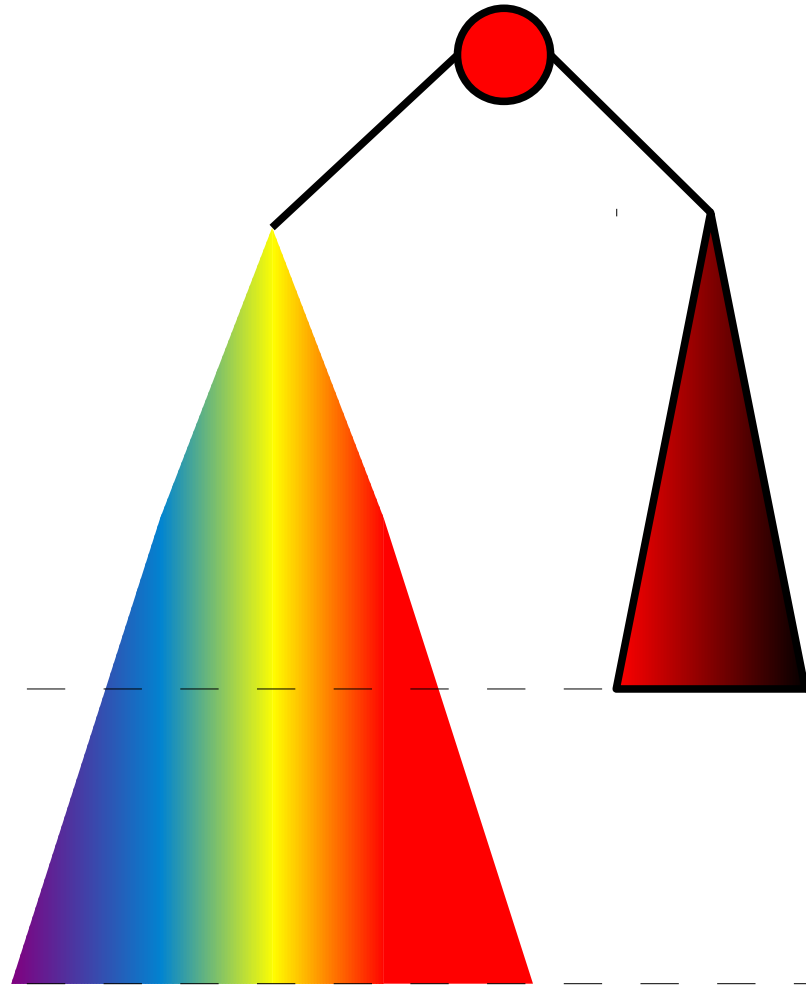


Адельсон-Вельский



Ландис

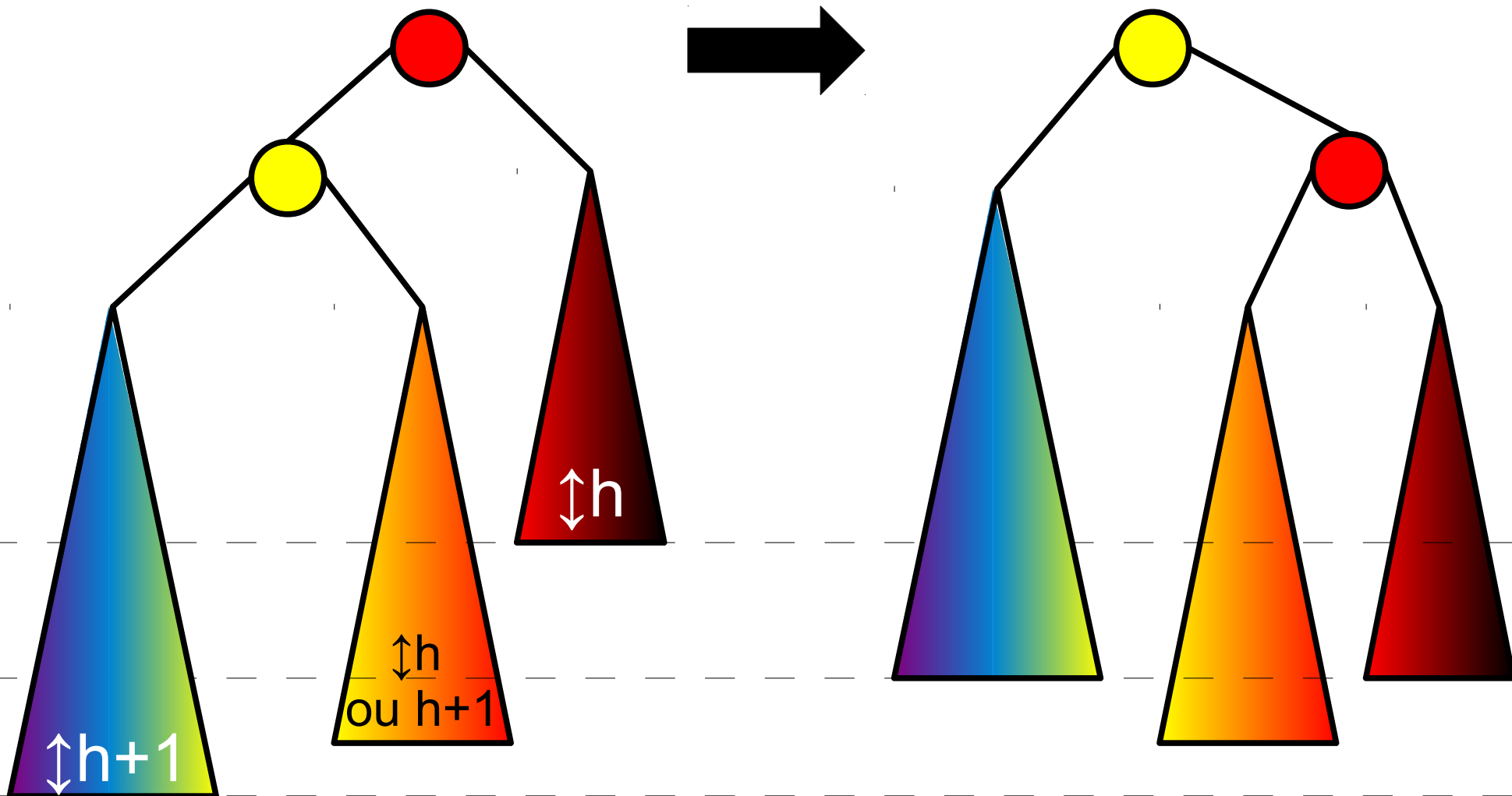
But : rééquilibrer



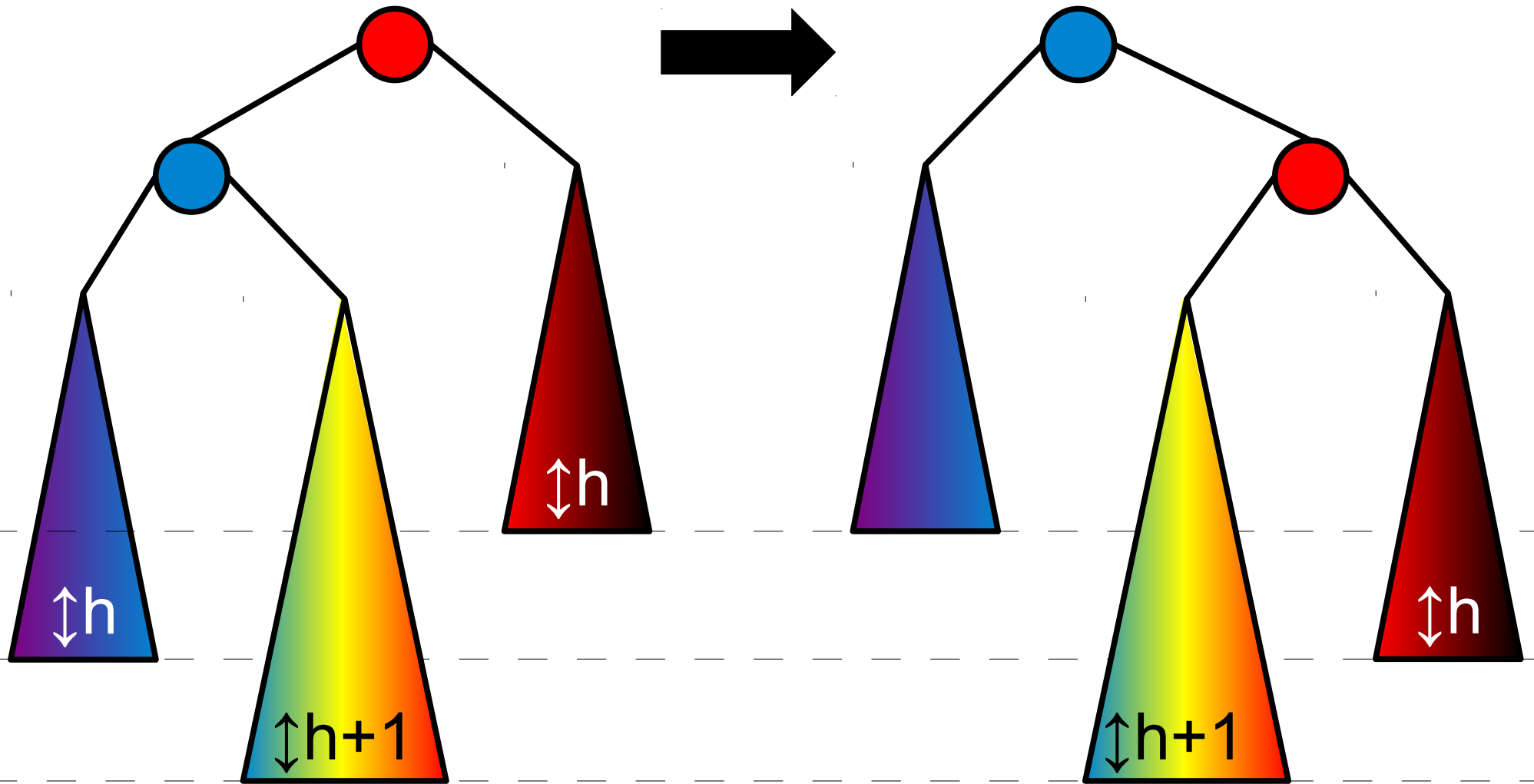
(ou son
symétrique)

2

Rotation droite



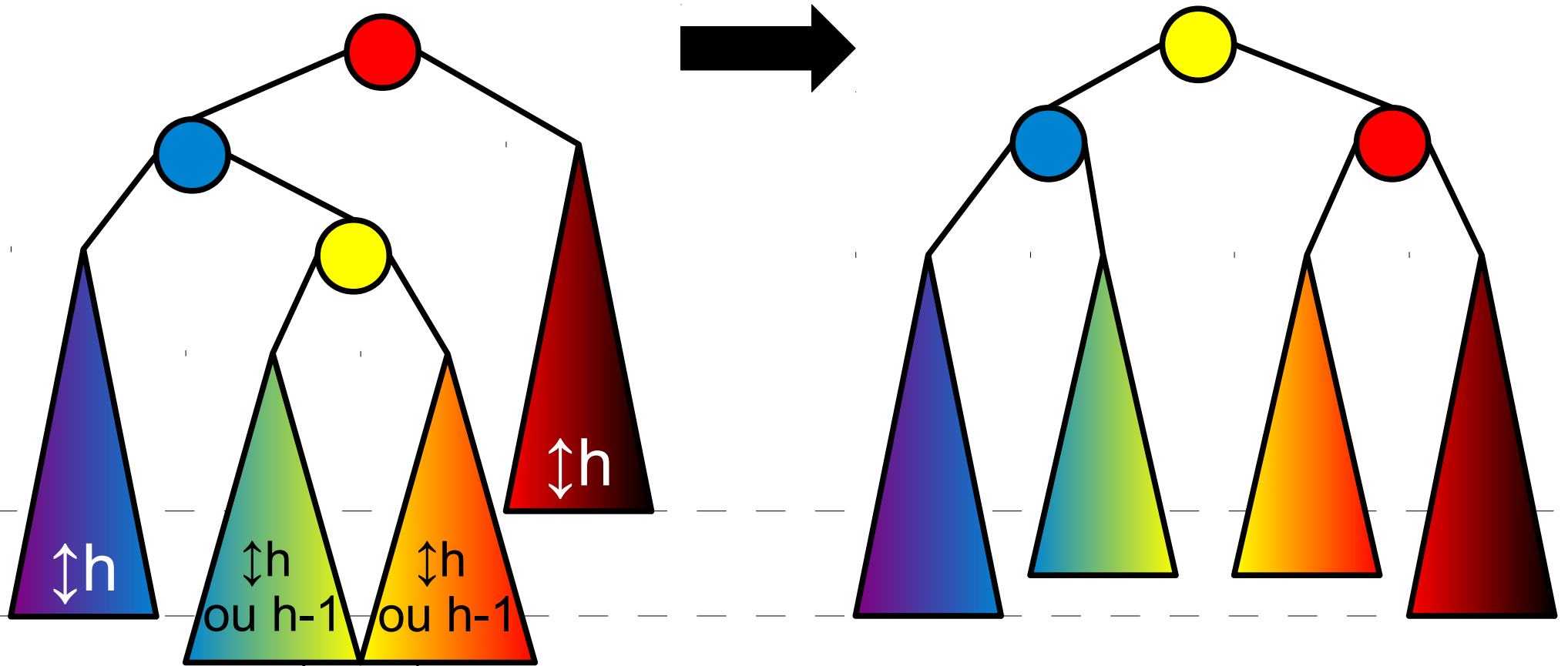
Essai d'une rotation droite !



Raté ! On va détailler

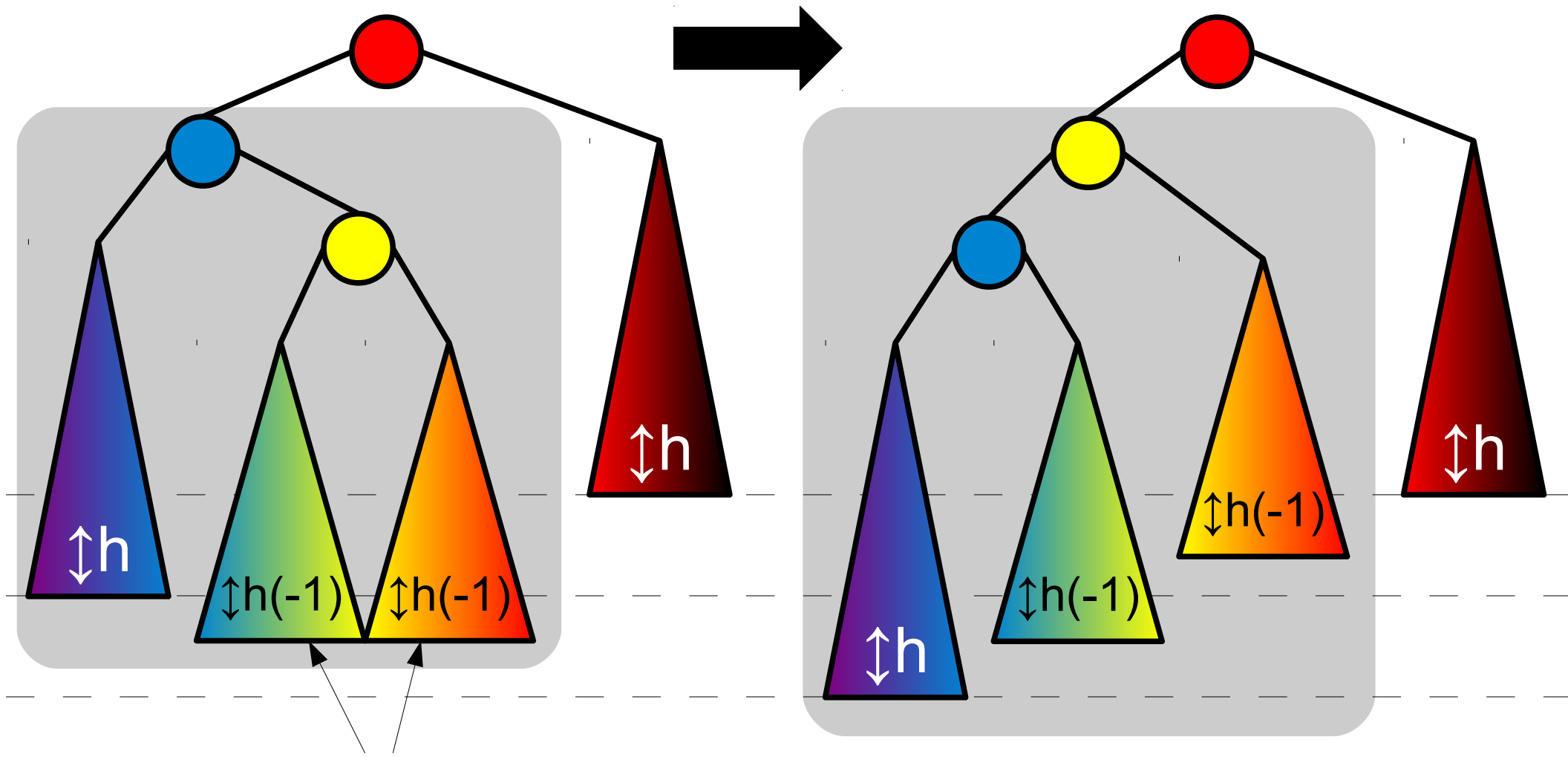


Rotation gauche-droite



L'un des deux de hauteurs h

D'abord une rotation gauche



L'un des deux de hauteurs h

Puis une rotation droite

