

Géovisualisation 3D

Géovisualisation dynamique et traitement de données

Christian Kaiser

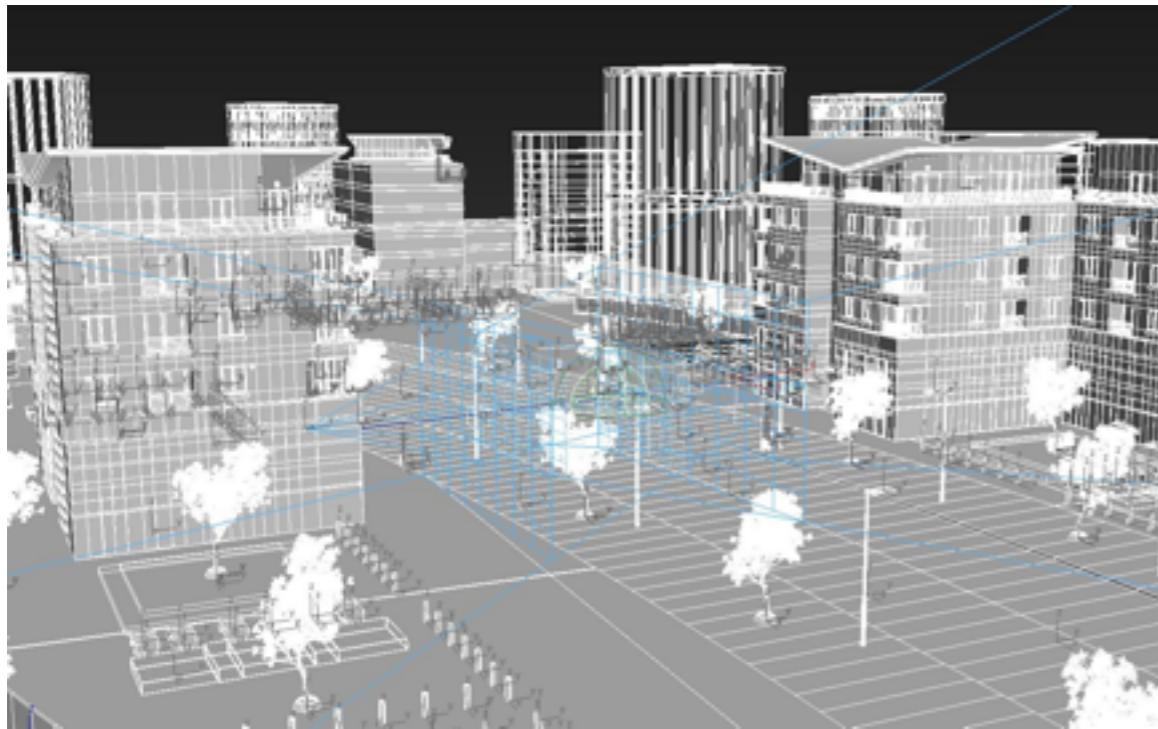
3D, pourquoi?

- .. Réalisme
- .. **Exploration:** voyage impossible (p.ex. dans le temps, à l'intérieur de la Terre), voyage trop difficile ou dangereux, ...
- .. **Simulation:** visualisation de scénarios (p.ex. urbanisme; changement climatique; catastrophes: séisme, accident chimique, guerre, ...)

Dimensions spatiales

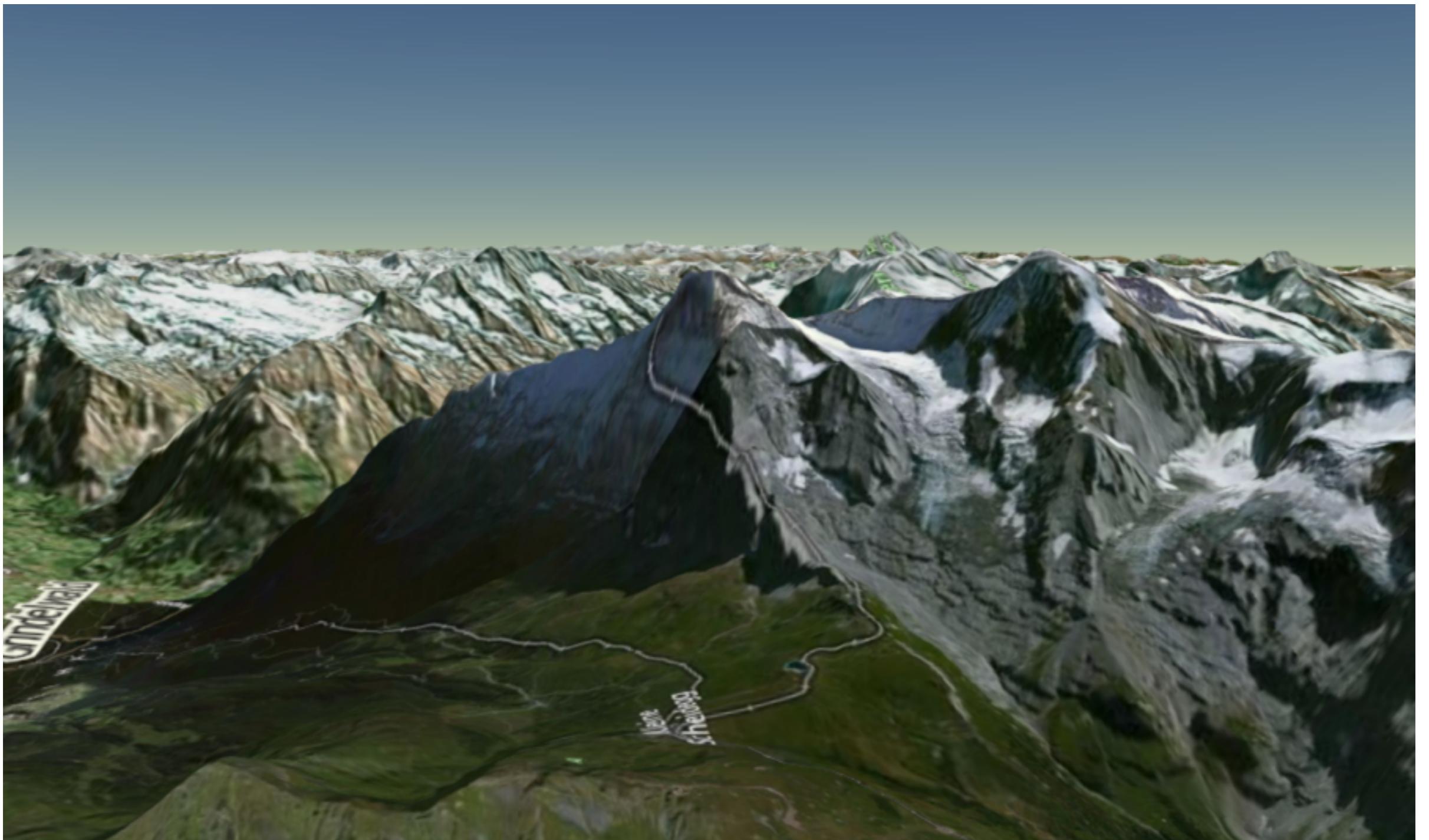
- .. 0 à 2 dimensions: points, lignes, polygones, etc.
- .. 2.5 dimensions: coordonnées (x,y), avec attribut z; p.ex. MNA
- .. 3 dimensions: coordonnées (x,y,z)
modèles virtuels

Visualisation 3D...



Visualisation 3D...

- .. Logiciels SIG 3D
 - .. ESRI ArcScene, GRASS GIS, AutoCAD 3D, ...
- .. Logiciels de modélisation/animation 3D
 - .. Autodesk 3ds Max, Autodesk Maya, Blender, Vue, ...
- .. Environnement de développement de jeux
 - .. Panda3D, OGRE 3D, Irrlicht, ...
- .. Globes virtuels
 - .. Google Earth, NASA World Wind, OpenWebGlobe, ...
 - .. OpenLayers + Cesium JS



<http://elevator.net/demos/ol3test/1b.php>

Vision 3D



<http://www.arborsci.com/cool/sidewalk-art-of-julian-beever>



http://en.wikipedia.org/wiki/Julian_Beever



Image oeil gauche

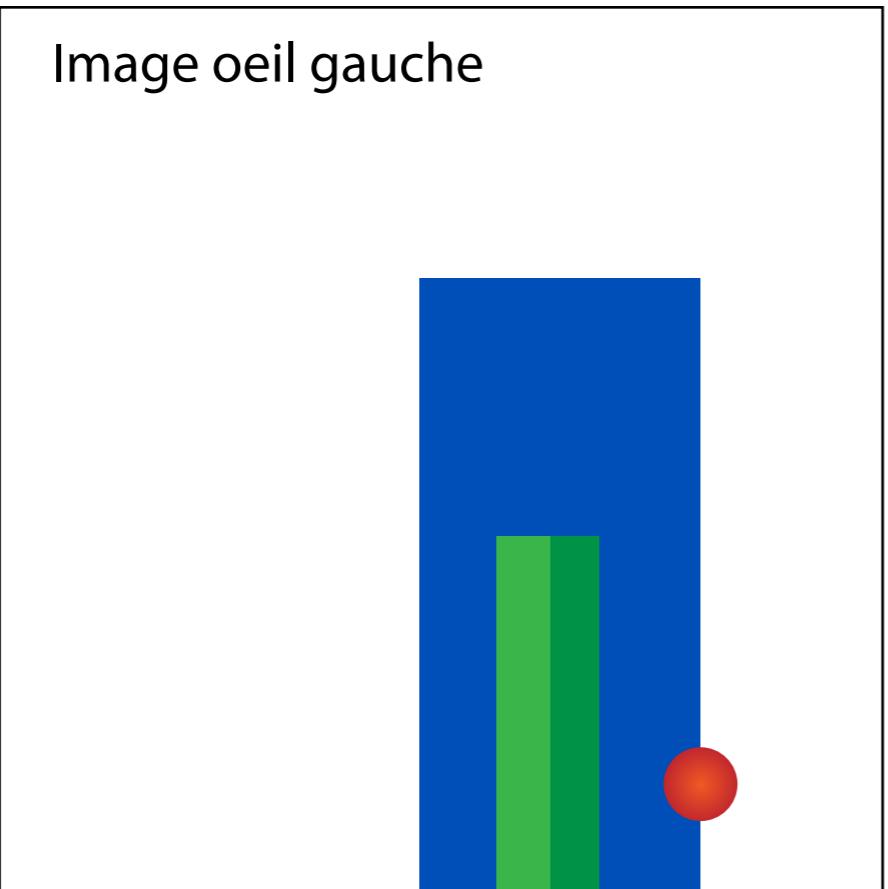


Image oeil droit

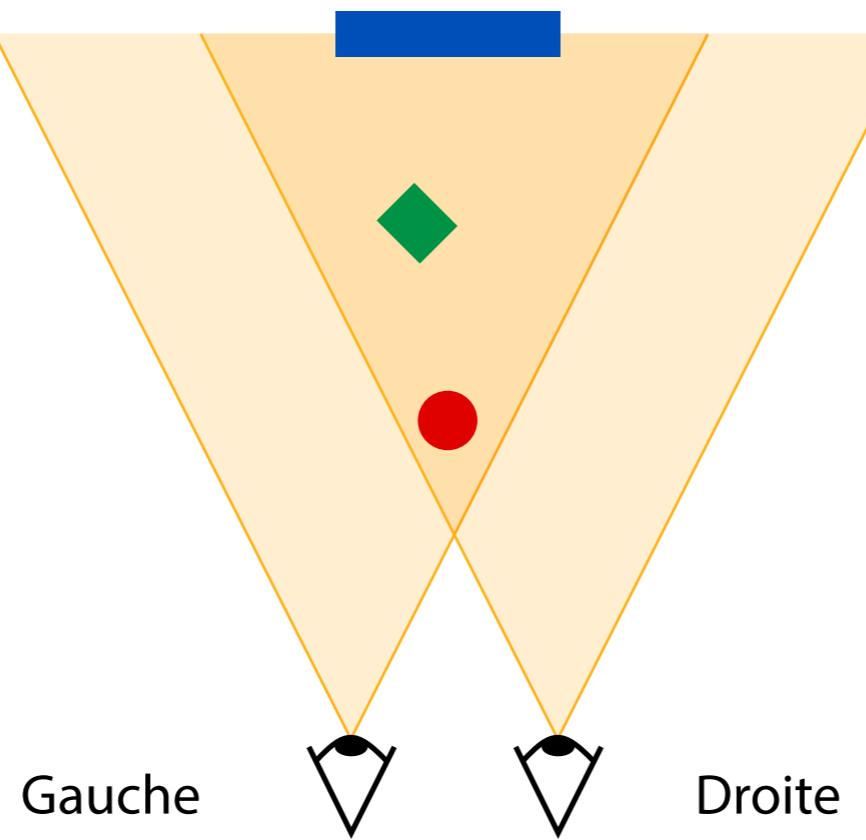
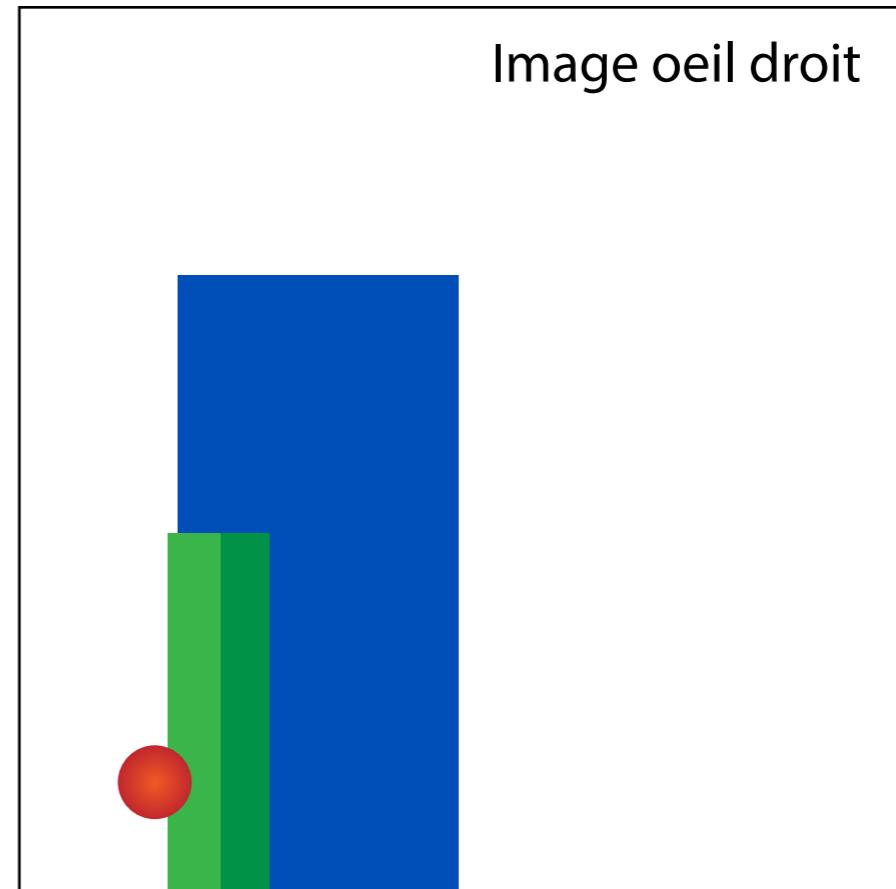


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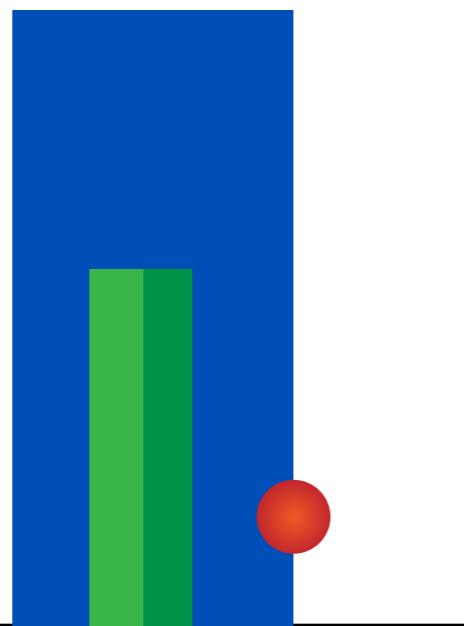
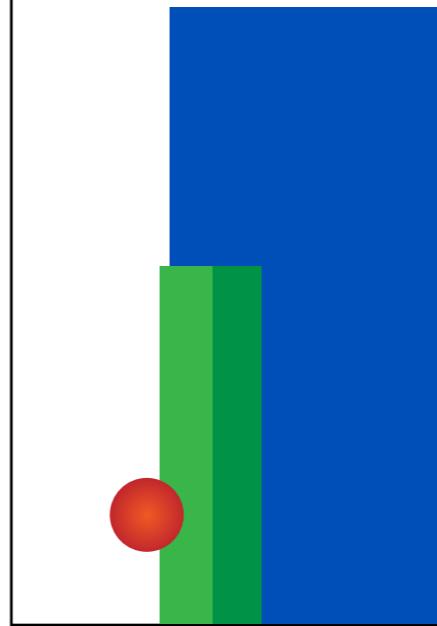
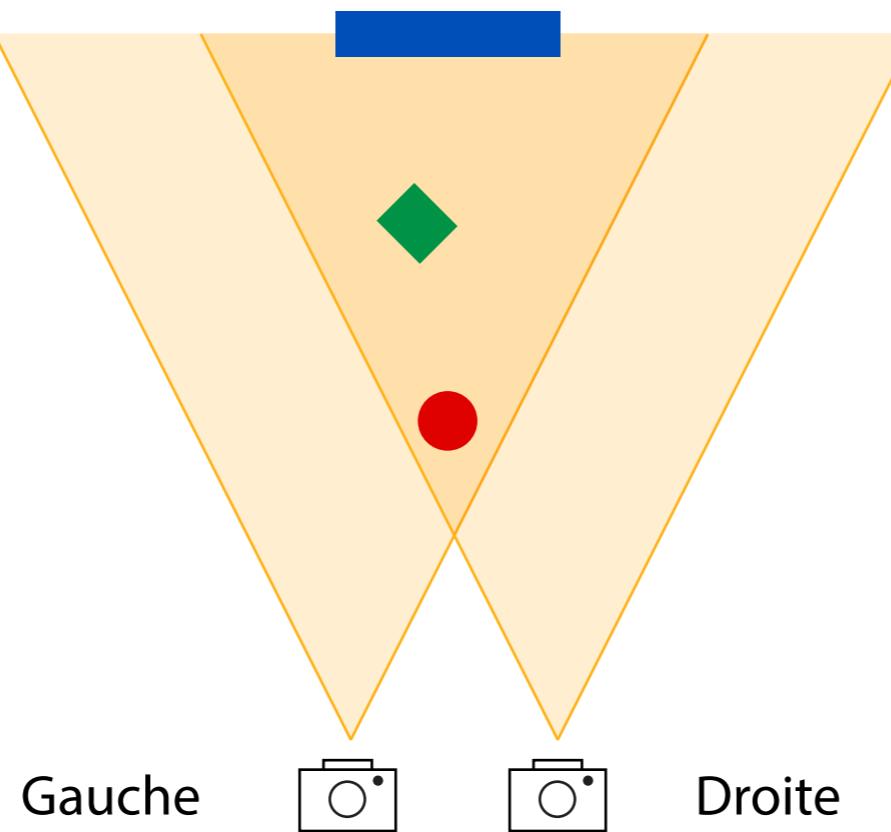
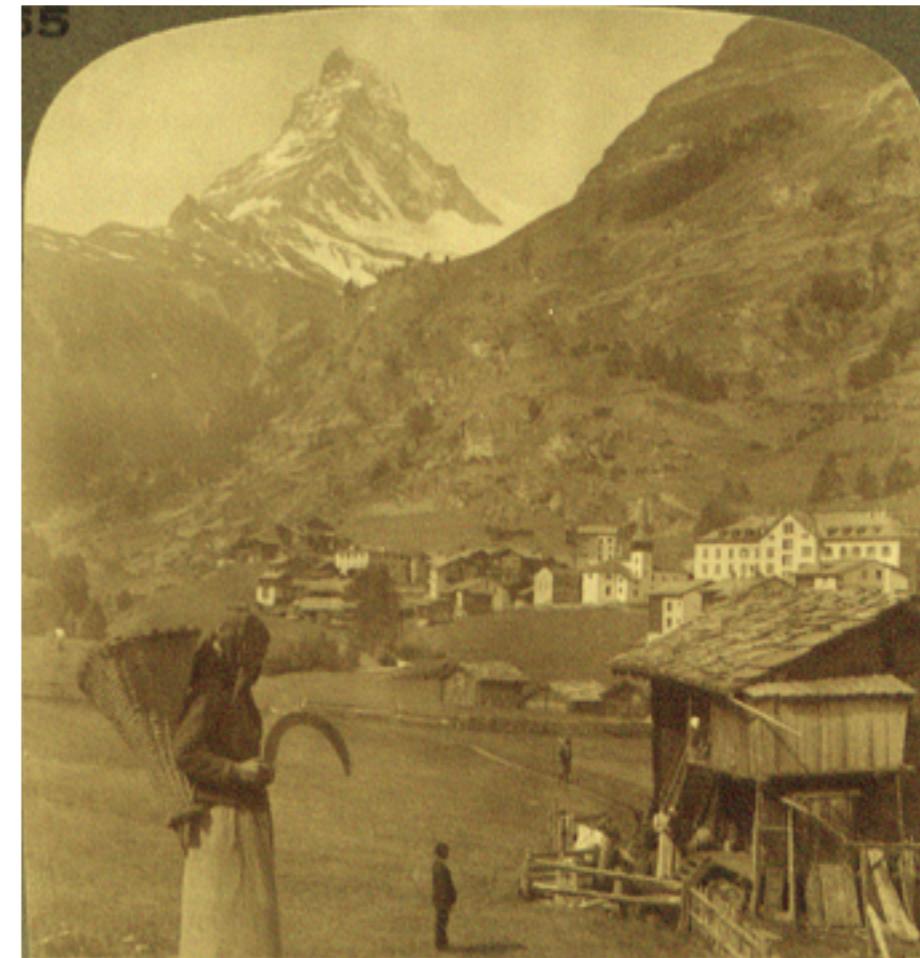
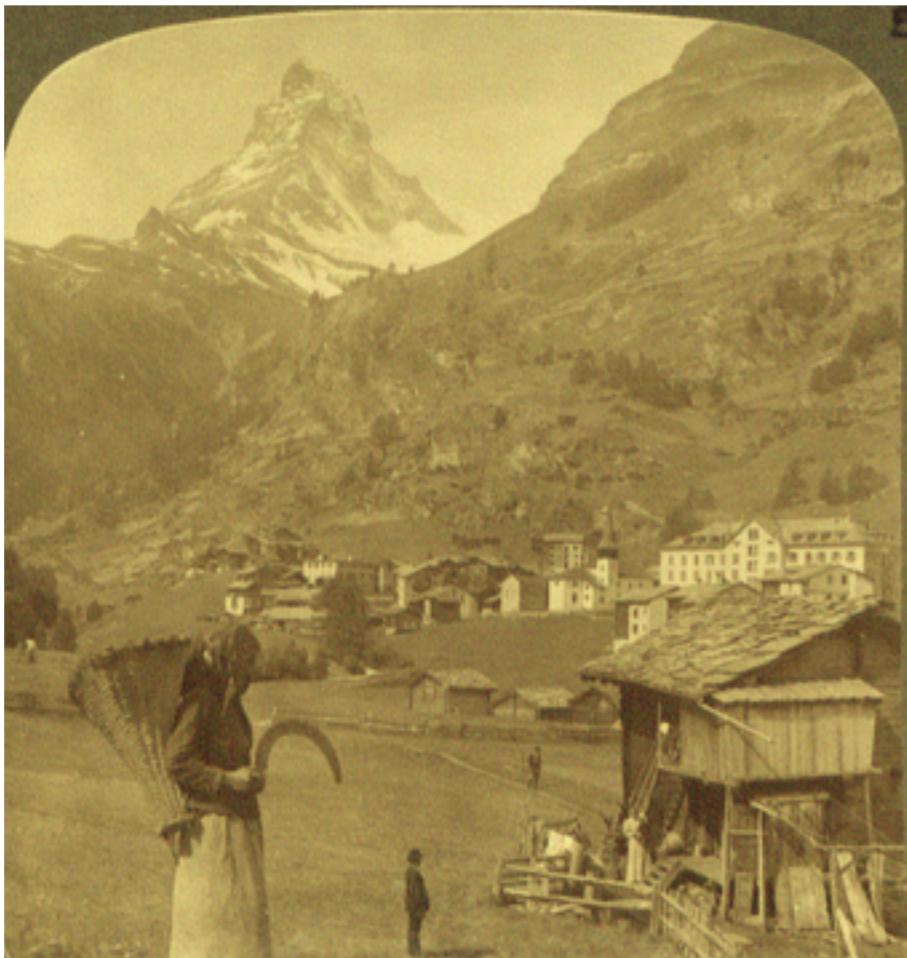


Image oeil droit

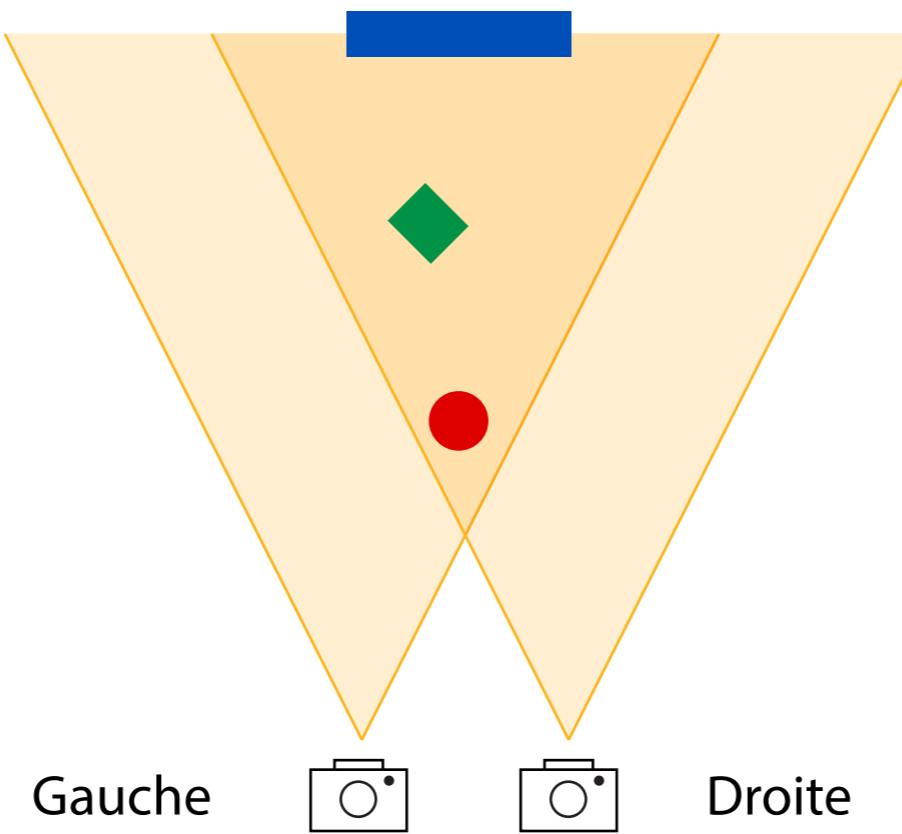
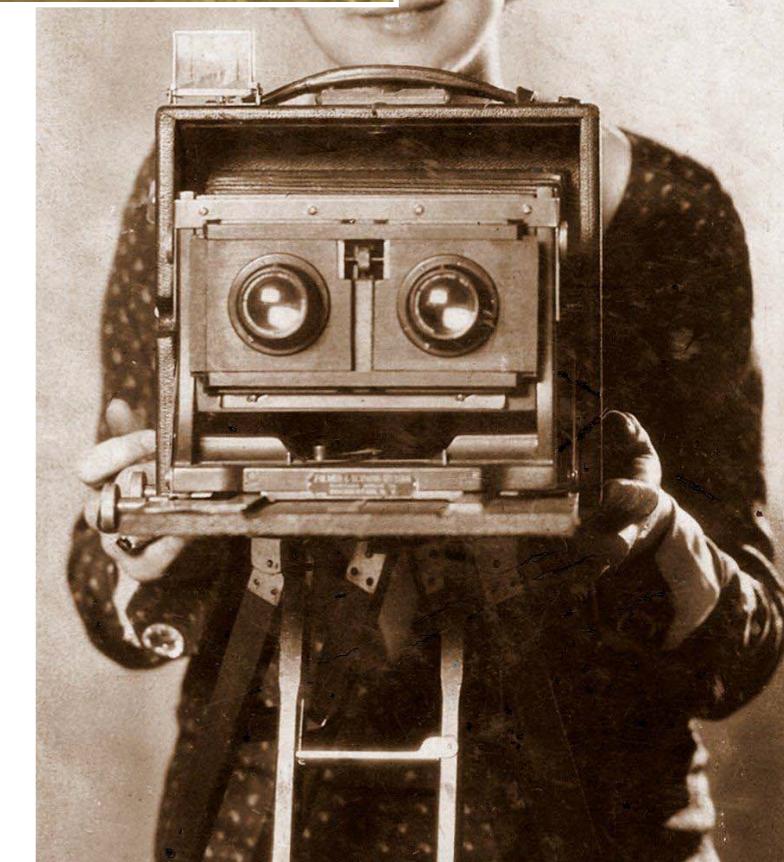


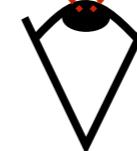
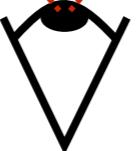
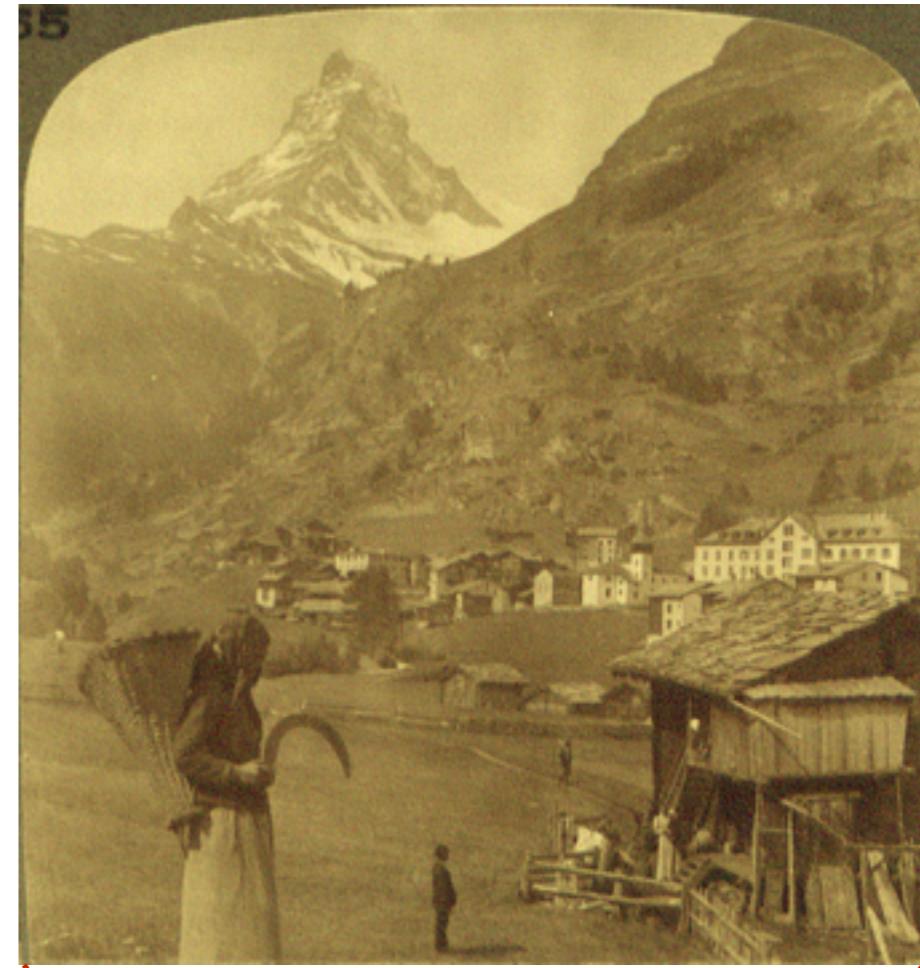
**WHY DO WE HAVE
TWO EYES?**





**WE HAVE
EYES?**





<http://purl.org/viatimages/fr/image/3519>



<http://www.hastac.org/blogs/tiffany-chan/2014/10/20/technical-challenges-turning-stereophotography-3d-stereogifs>

http://en.wikipedia.org/wiki/Stereoscope#/media/File:Holmes_stereoscope.jpg



<http://igd.unil.ch/viati3d>