

MorphoMuseuM: a scientific journal for the publication of virtual specimens

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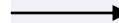
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Context

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Density (x,y,z)

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- Need to **exchange / reuse 3D data** has increased

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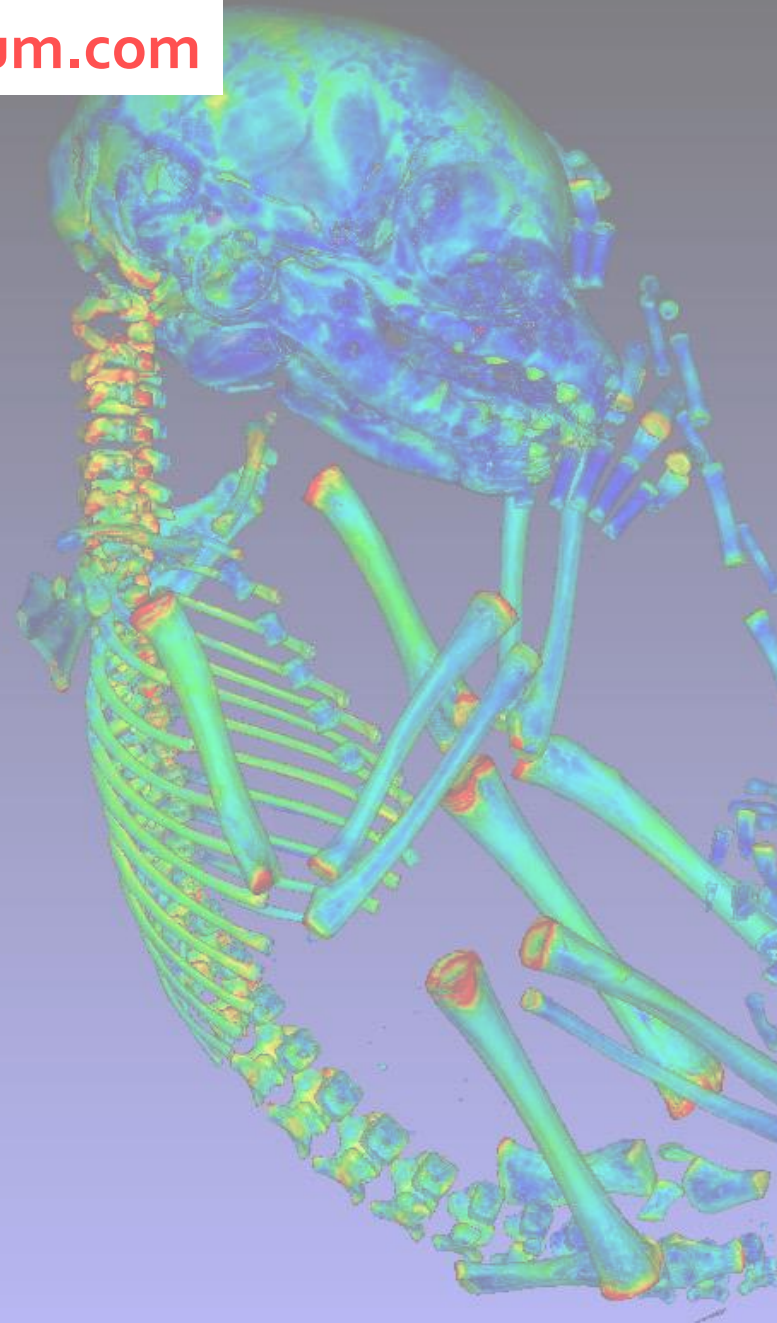
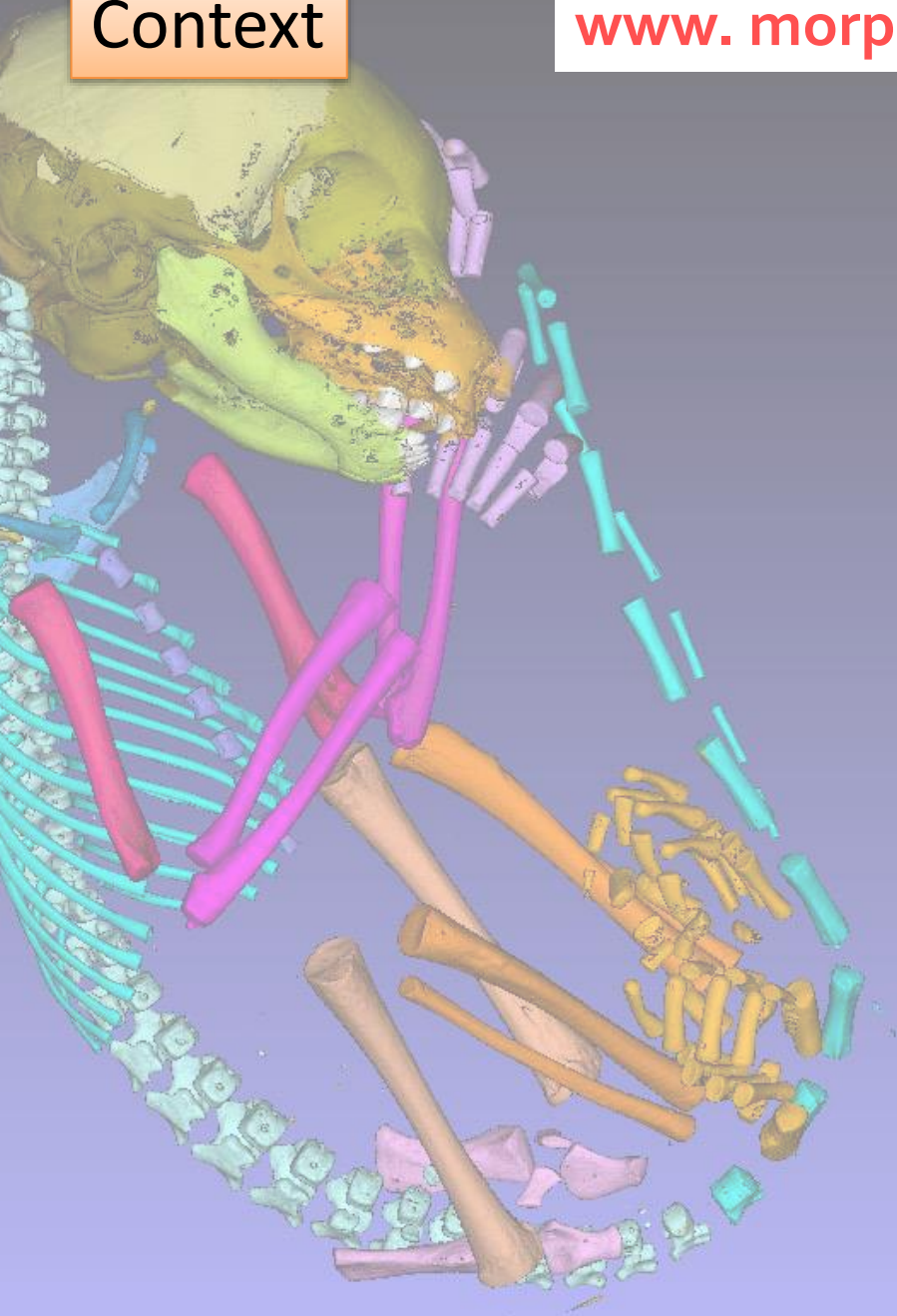
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→ www.morphomuseum.com

Renaud Lebrun, IR CNRS (conception + development + chief editor)
Maëva Orliac, CR CNRS (conception + chief editor)

Context

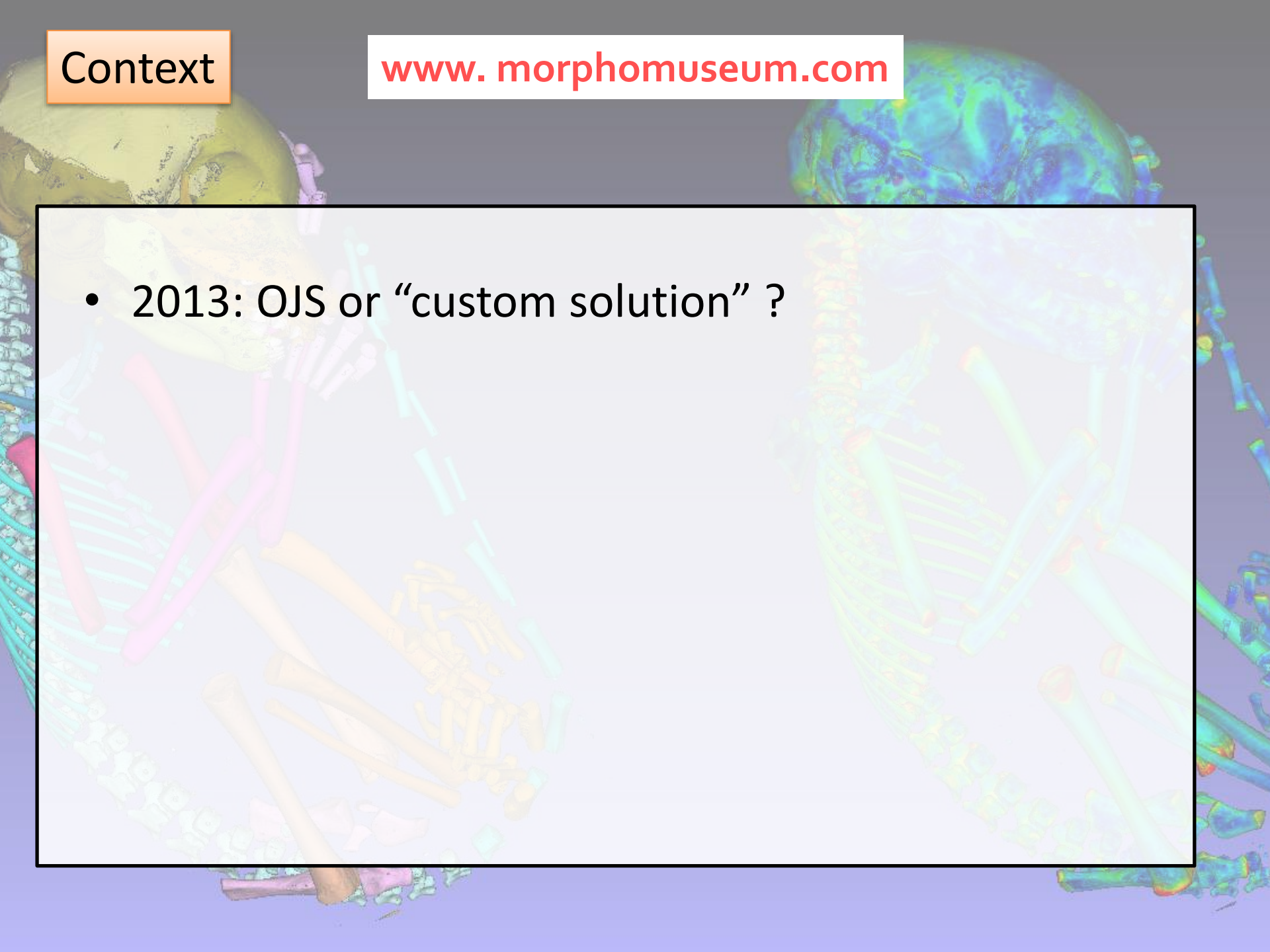
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➔ M3 : inhouse solution

- php Framework: CakePHP
- open-source 3D viewer (3DHOP)

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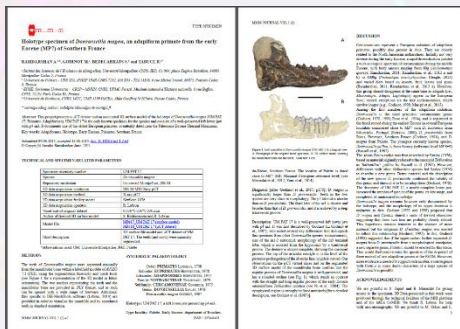
→ M3 : inhouse solution

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→ WHOLE editorial pipeline with semi-automatic emails based on templates...

An online Platform for publication and storage of virtual specimens

1 publication = 1 PDF (at least a short note) DOI
+ 1 or Many 3D models DOIs

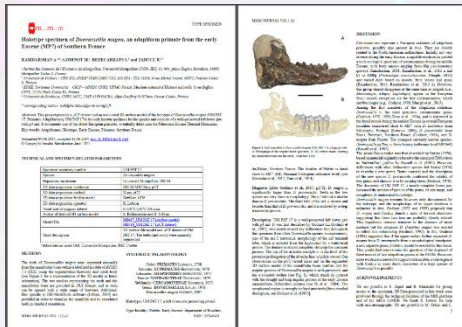


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The journal was launched in 2014

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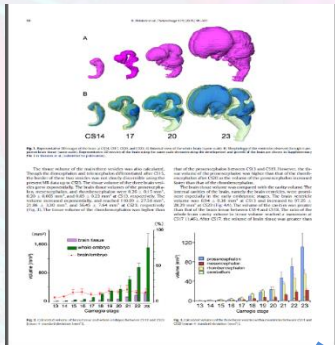
2 flavors :



An online Platform for publication and storage of virtual specimens

2 flavors :

- Data papers (short notes) + 3D models



« external »
article

Specimen	Sex	Developmental stage
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M3430_KC-CS19BRN16509	Female	Embryo 17
M3430_KC-CS19BRN16510	Female	Embryo 17
M3430_KC-CS19BRN16511	Female	Embryo 17
M3430_KC-CS19BRN16512	Female	Embryo 17
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M3430_KC-CS19BRN16514	Female	Embryo 17
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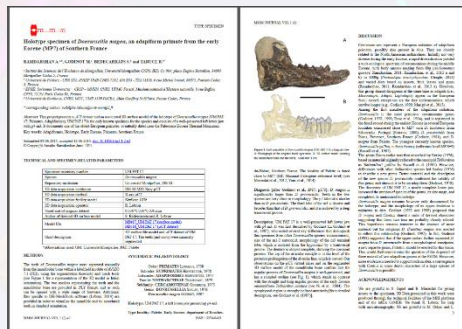
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M3

An online Platform for publication and storage of virtual specimens

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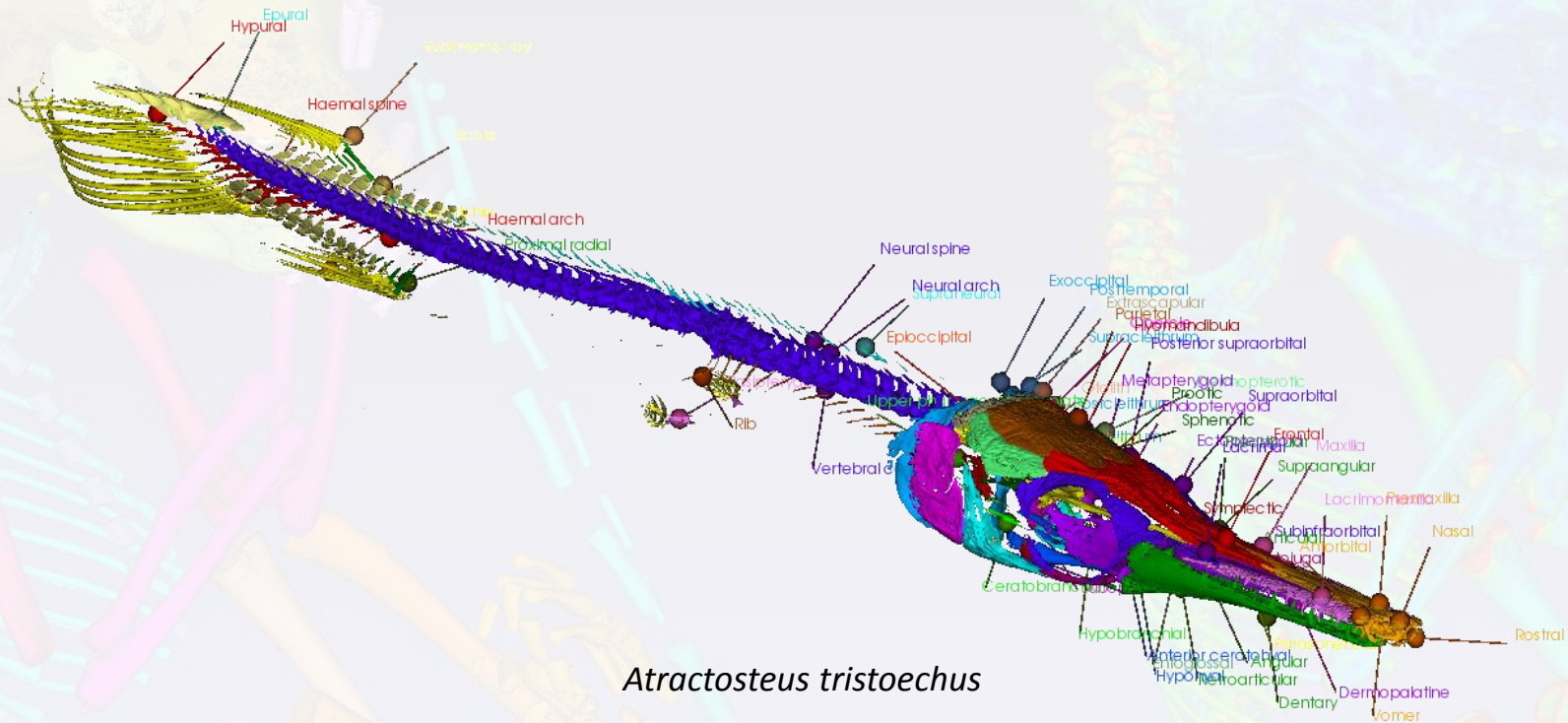
- Data papers (short notes) + 3D models
- Conventional articles



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M3

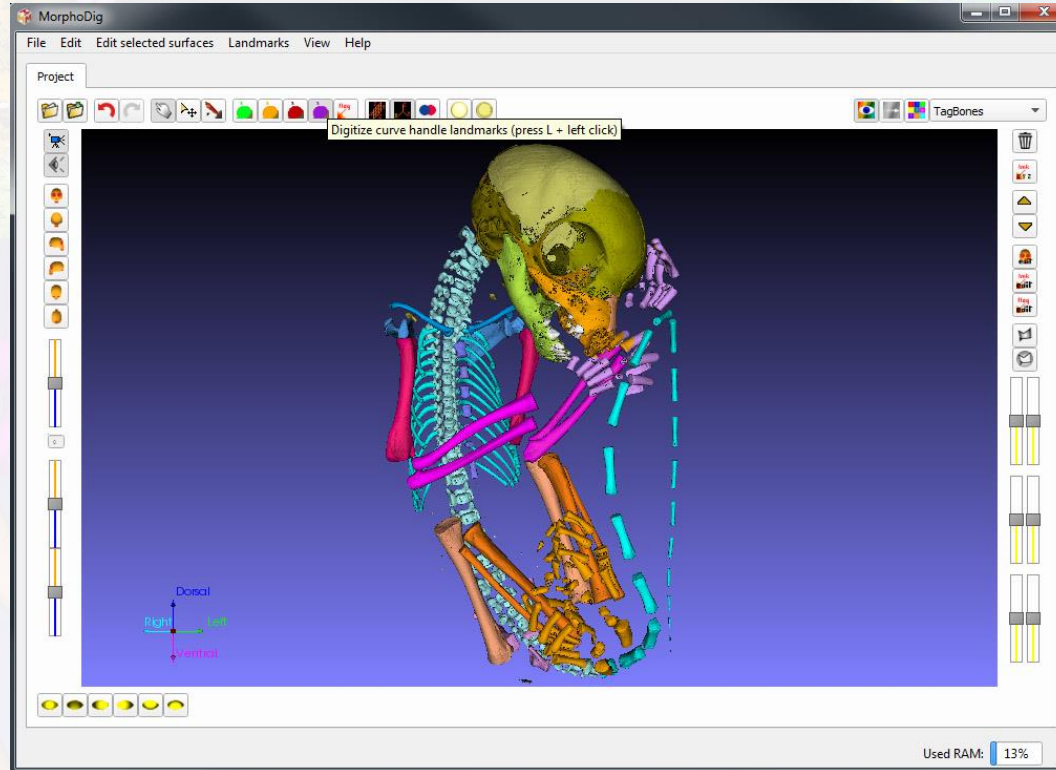


Atractosteus tristoechus

MorphoMuseuM mainly aims at publishing 3D anatomy atlases

➔ 3D software are needed to produce such 3D models

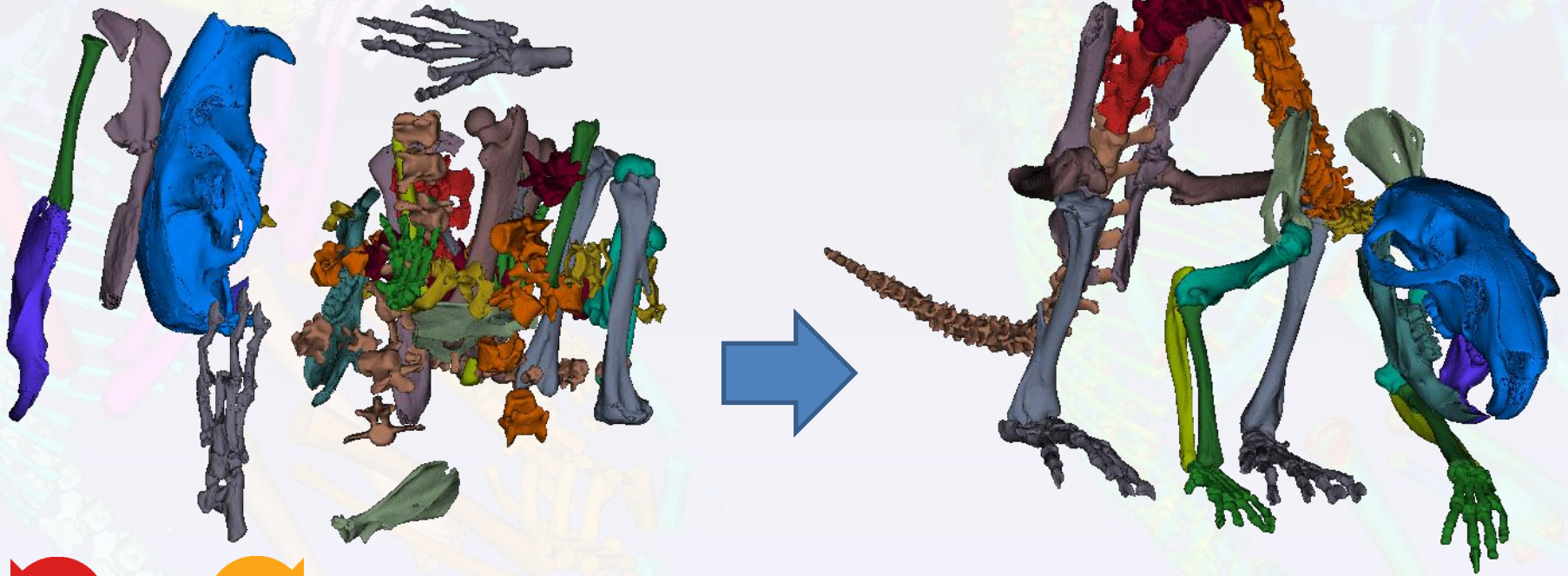
MorphoMuseuM's companion : MorphoDig



→ Again an “inhouse” solution
(no standard for the publication/creation of 3D models exist)

Interactions with surface objects

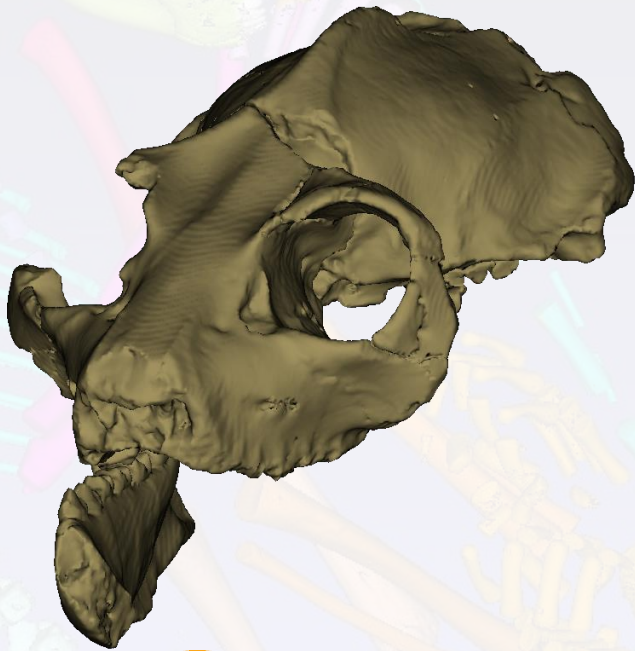
Possibility to select-and-move many surfaces objects at once (not 1 by 1)



Canariomys bravoii

Data processing: mirror

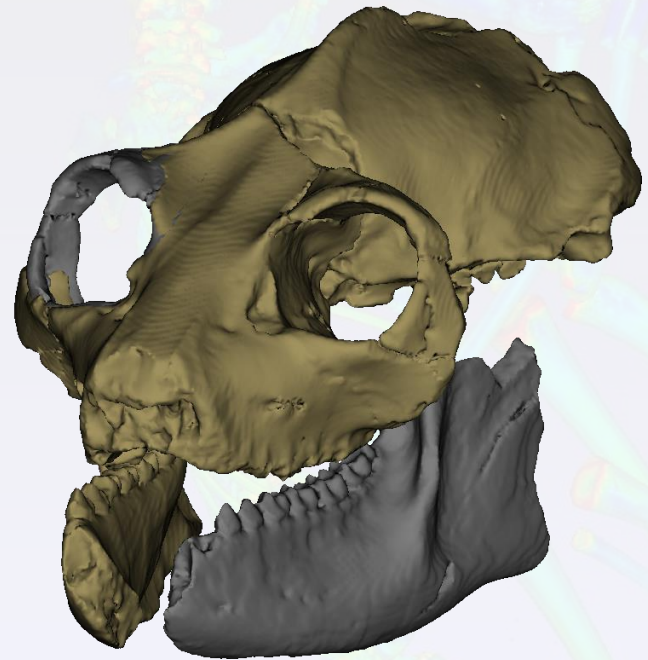
Mirroring of surface objects (virtual restoration)



Undo






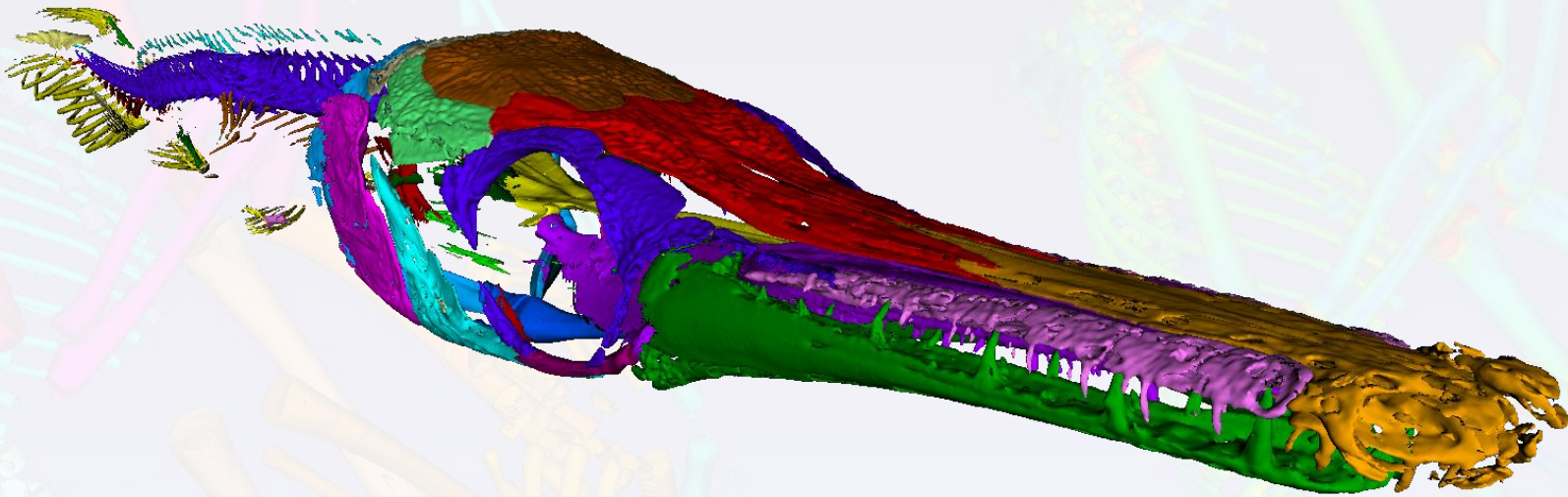
Redo



Palaeolemur betillei

Data manipulation

Surface tagging ( ,  , ) to create anatomy atlases



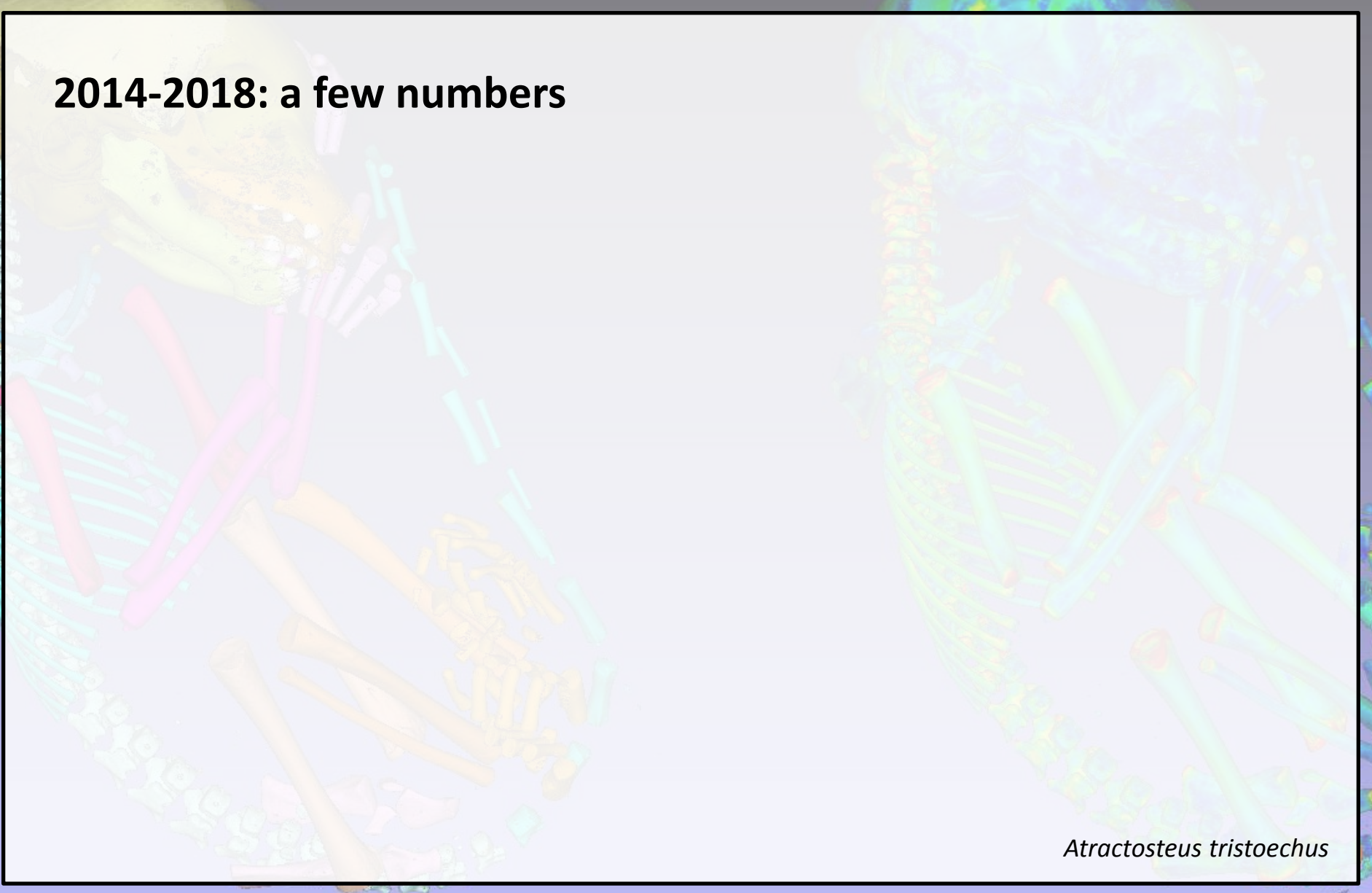
Undo



Redo

Atractosteus tristoechus

2014-2018: a few numbers



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47 PDF + associated dataset published

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- ➔ A moderate success.
- ➔ I.F. : not soon...

Atractosteus tristoechus

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Technical choices

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Drawbacks

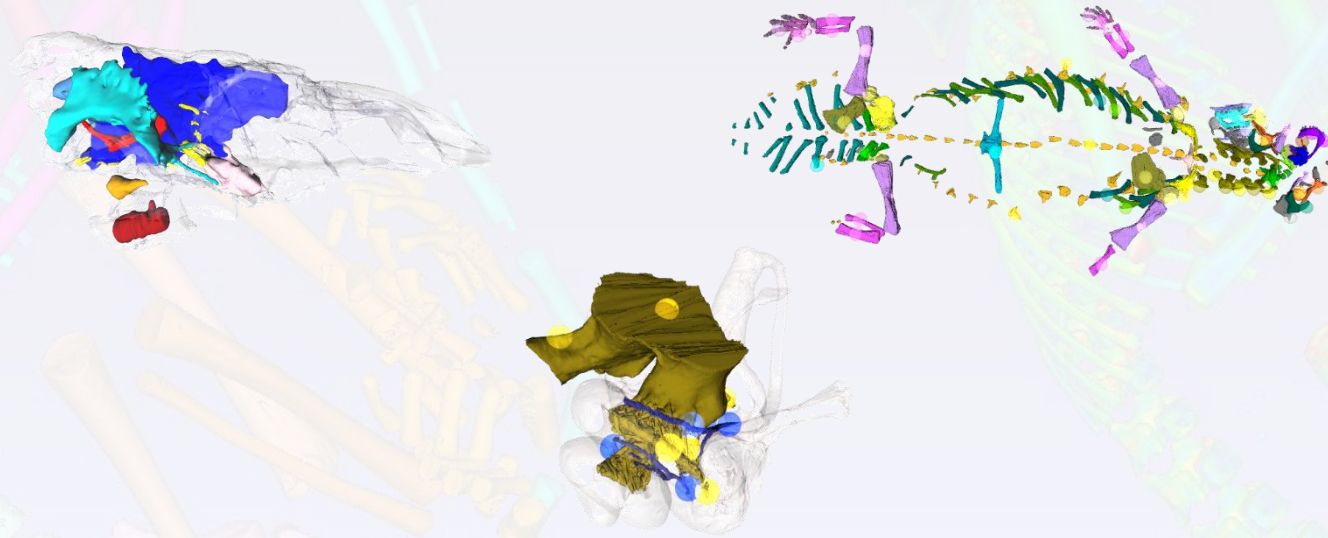
- 😞 - relies 100% on RL (me). Issues when I am out of the lab.
- 😐 - time spent to correct bugs/develop new functionalities.
- 😞 - diffusion, archiving, hosting relies on us.

2014-2018: edition of a 3D data journal

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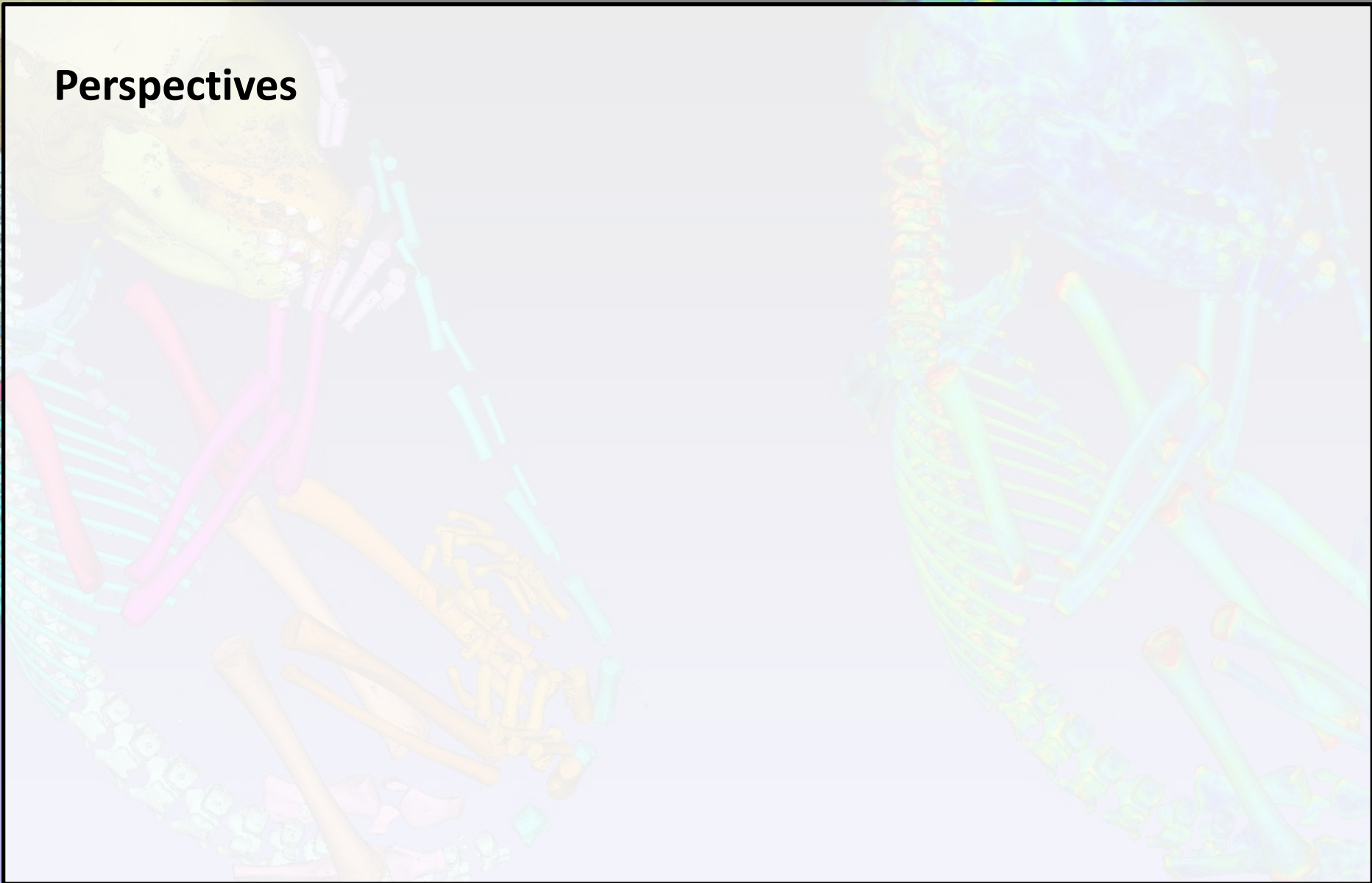
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Editing a 3D journal

- ☹️ - Both technical skills (rare) + scientific skills are needed.
➔ difficult to rely on the editorial board members
- 😞 - PDF production: I use latex and produced the 47 .pdf files.
Hard to find someone who can or would like to help.

Perspectives



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Maintenance

- ☹️ - M3 developed with 2014 web standards (outdated).
M3 will need a **complete redesign soon**. Can I afford to spend ~6 months to redesign M3 every ~5 years?



Migration: 2.1 => 3.6.

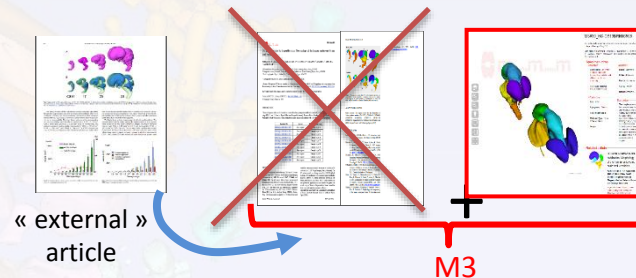
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- 😬 - More web traffic = need for another hosting plan
 - ➔ professional hosting service (OVH?)
 - ➔ charge users ?

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Professional full publisher solution

→ can we afford that?

→ who would pay?



Thanks a lot!



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