



FLAAR Reports

JANUARY 2009

Medium Format Digital Photography for Museums, Art History & Archaeology



By Nicholas Hellmuth

Introduction

There are three major classes of digital cameras that are good for photographing art, artifacts, and historical architecture:

- Large format camera systems (Cambo, Linhof, Sinar, Arca-Swiss, etc)
- Medium format camera systems (Hasselblad, Mamiya, Contax etc, with Zeiss lenses)
- 35mm camera systems (Nikon, Canon, etc).



Large Format Camera



Medium Format Camera



35mm Camera

For photographing architecture there are also other special classes of cameras and lenses that we cover in separate new FLAAR Reports. The present report is primarily on photographing sculpture, but the same cameras that photograph stelae, altars, and miscellaneous stone sculptures can also be used to photograph temples, palaces, pyramids, and ballcourts.

There is a separate FLAAR Report on the special lighting that we used at Copan. Most museum curators prefer that hot tungsten lighting not be used. So we brought a special set of cool digital fluorescent lights from Westcott to light the sculptures.

Medium Format Digital Cameras

FLAAR has all three kinds of digital cameras: large format (BetterLight back with Cambo front), medium format (Phase One back with Hasselblad front), as well as both Nikon and Canon. Each of these cameras has their place in museum photography; any good museum should have all three. BetterLight is best for circumferential rollouts of round objects such as Maya funerary vases as well as copy-stand work on flat objects such as paintings or maps.

Medium format has better depth of field so is good for general purpose photography, but can't do circumferential rollouts nor as high a resolution on paintings or maps. But medium format photography equipment is much faster to set up and take down, and very portable (the BetterLight is also portable, but it takes more than one hour to set up the entire system, calibrate everything, and get the first rollout or panoramas image). At Copan we had all three camera systems and used all three.

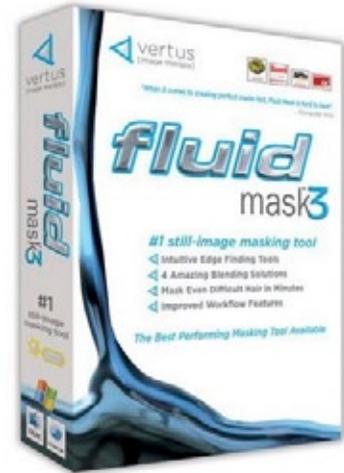
Medium format digital backs come in many brands and sizes (resolution). Anything less than 22-megapixels is already rather old. If your budget allows for more, you can get 39 megapixels and nowadays (in 2009) more is coming. But 22 megapixels is plenty good enough.



Photo Copan Ahau

Removing unwanted edges or backgrounds on photos with: Vertus Fluid Mask plug in for Photoshop CS3.

The FLAAR team recently acquired a trial version of Vertus Fluid Mask plug-in, a useful tool that helps remove unwanted edges or backgrounds relatively quickly and easily. This plug-in is easy to install and to learn. It has helpful tutorials and videos to understand how it works. Here is a quick step-by-step report to help you understand how to utilize it for archaeological sculpture in the Copan Sculpture Museum.



Vertus Fluid Mask



Photo Copan macaw ballcourt marker before vertus fluid mask

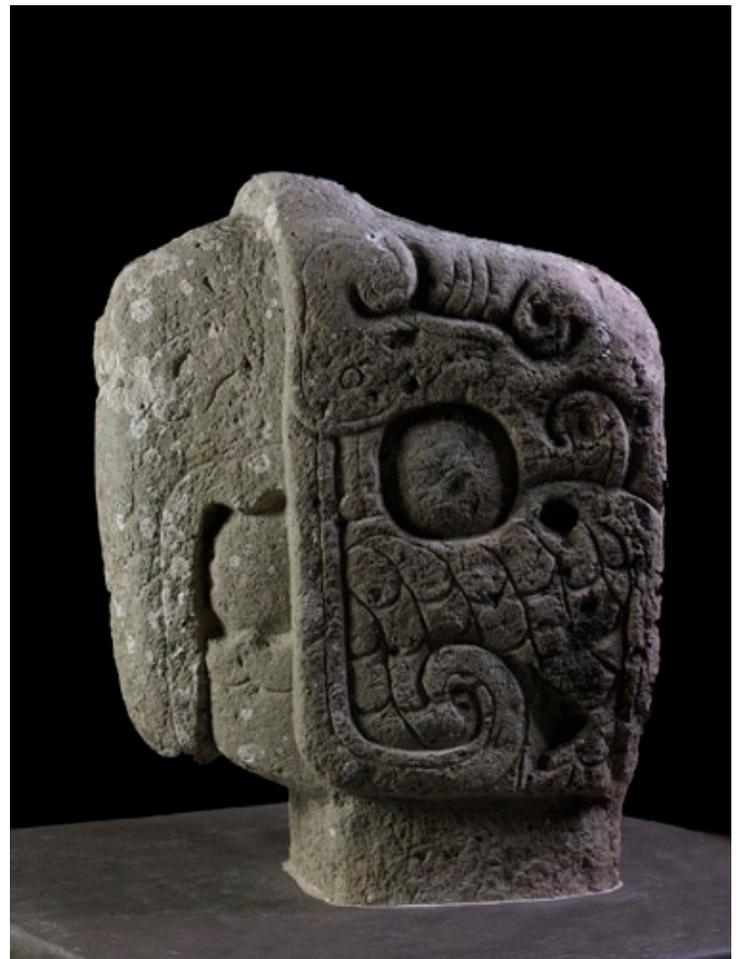
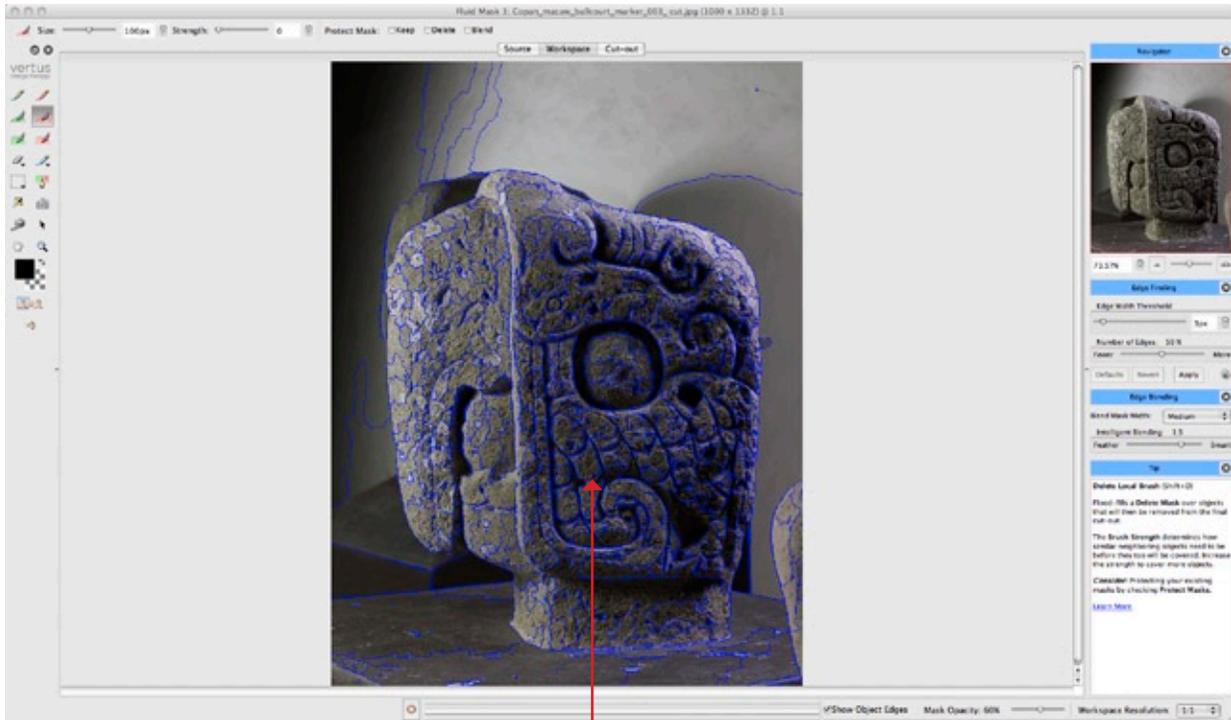


Photo Copan macaw ballcourt marker after vertus fluid mask

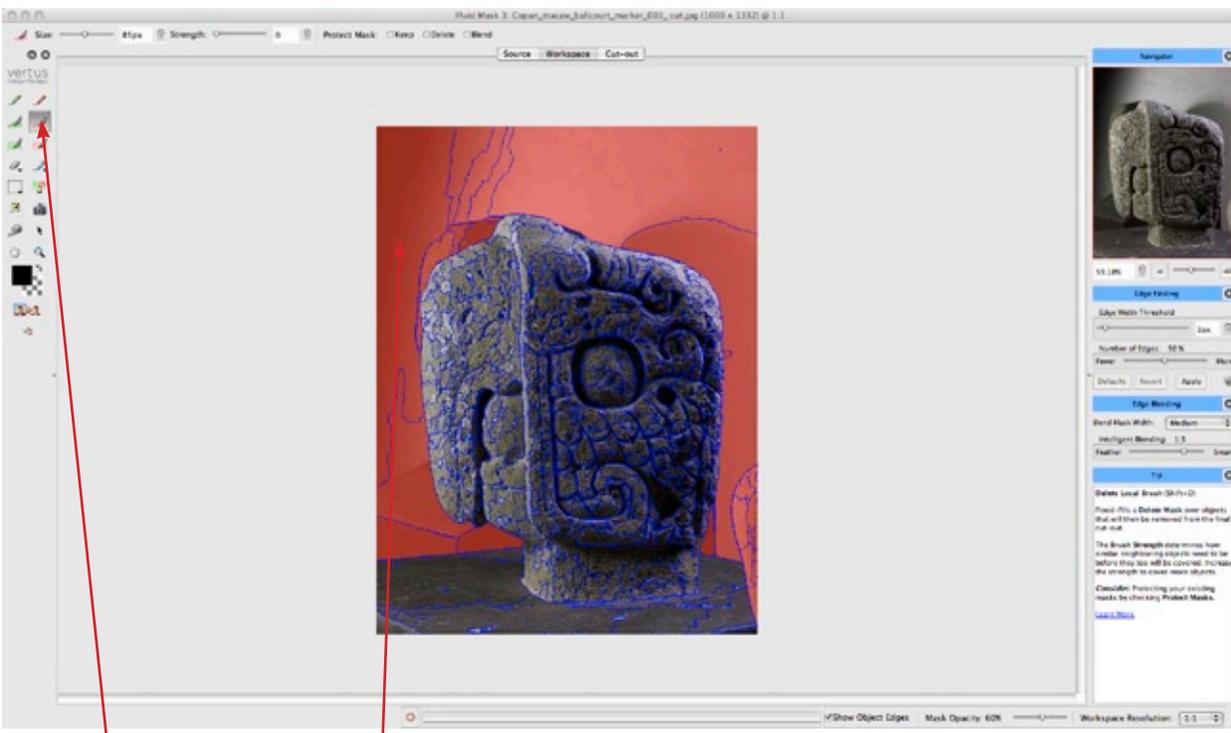
First step

After installing the Vertus software, open the photo you want to work with in Photoshop, go to the filter menu and select the Vertus Mask filter, your photo will appear in a full workspace window with blue lines recognizing and selecting edges of the photo.



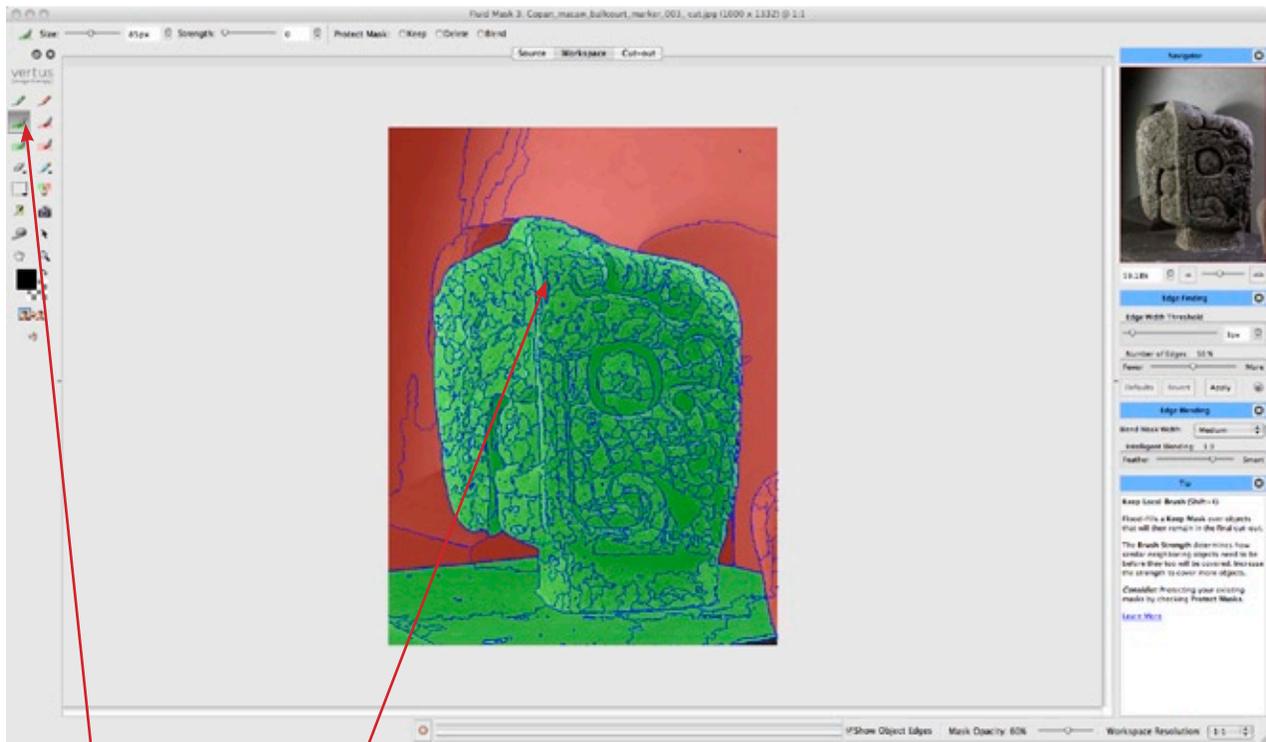
Blue lines recognizing and selecting edges of the photo

The next step will be to select the delete local brush and start selecting the parts you will like to remove from the photograph; all the parts that you select will become a red mask.



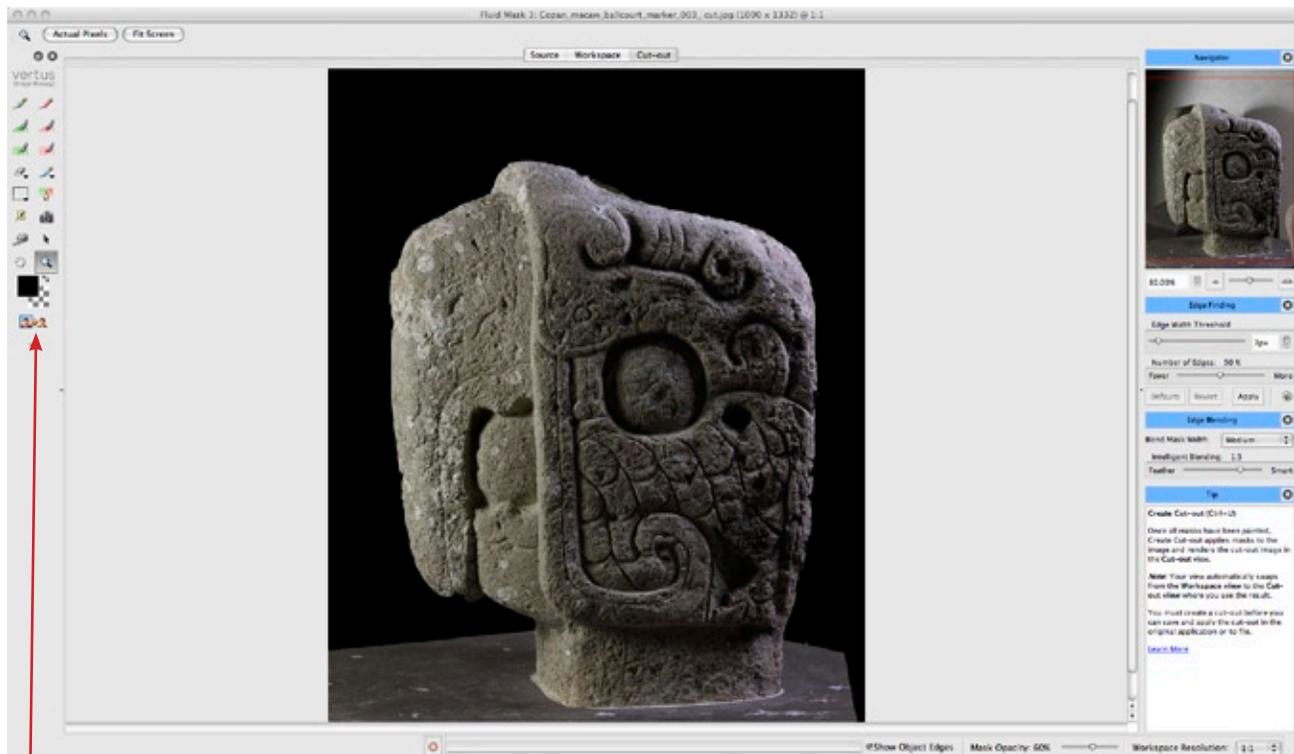
Select the delete local brush and mask all the area you want to delete

The next step is to select the keep local brush; and start selecting the parts you want to keep of the photo, all the parts that you select with this tool will become a green mask.



Select the keep local brush and mask the area you want to save

The next step is to select the cut out tool and then save and apply, and see the end result, is this fast and easy, so what it use to take hours to do, now you can do it in a few minutes.



Select the cut out tool and then save and apply

End Result



Photo Copan macaw ballcourt marker before vertus fluid mask



Photo Copan macaw ballcourt marker after vertus fluid mask



Photo of Copan incense burner with cacao before vertus fluid mask



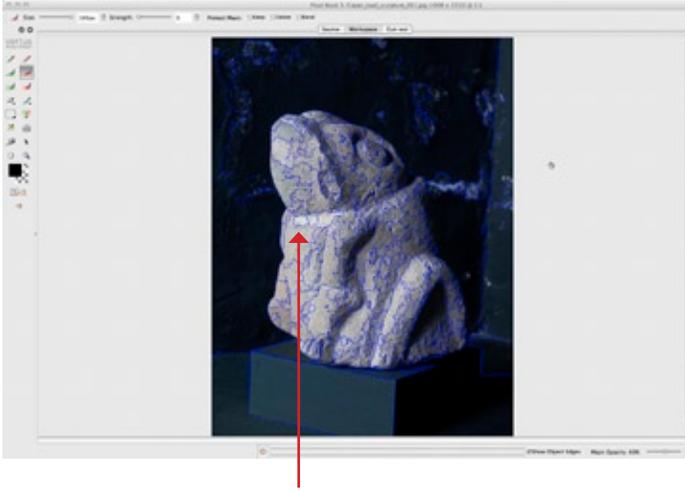
Photo of Copan incense burner with cacao after vertus fluid mask



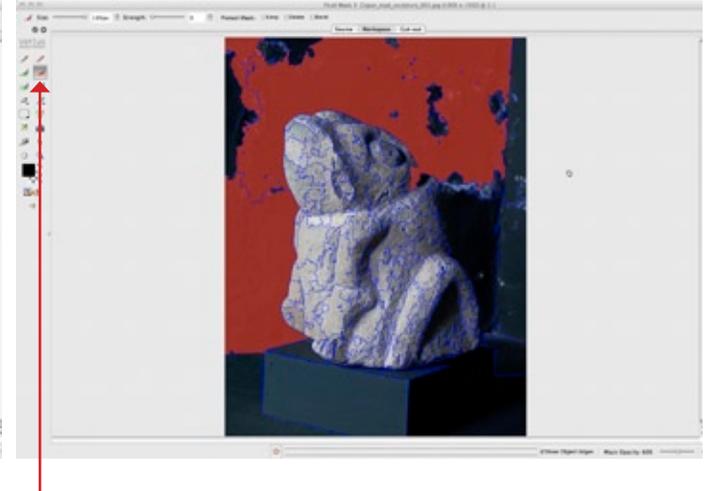
Photo of Copan stone model of house before vertus fluid mask



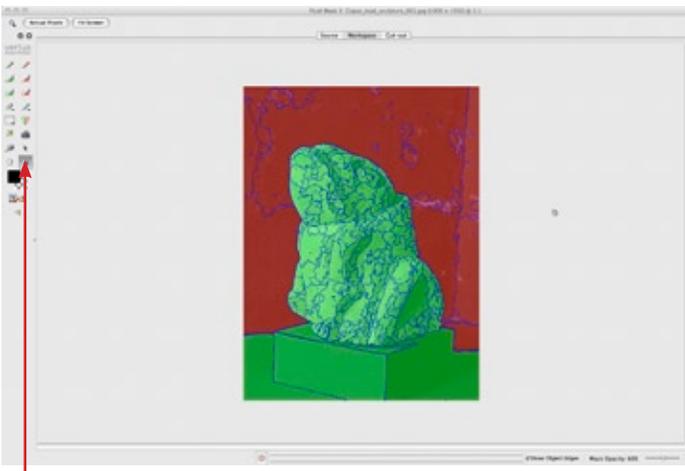
Photo of Copan stone model of house after vertus fluid mask



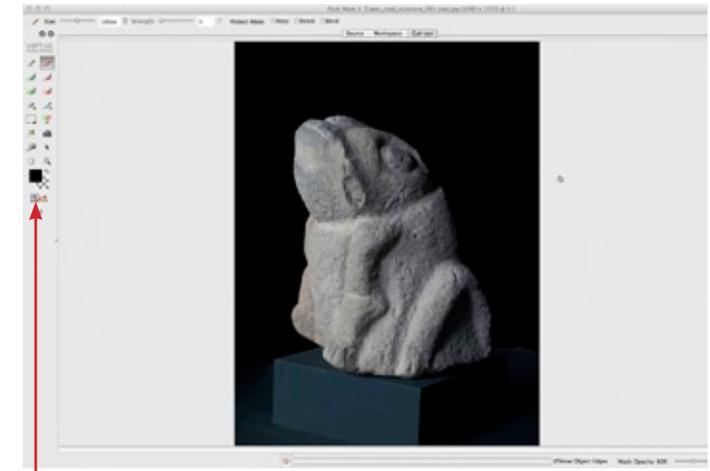
Blue lines recognizing and selecting edges of the photo



Select the delete local brush and mask all the area you want to delete



Select the keep local brush and mask the area you want to save



Select the cut out tool and then save and apply



Photo of Copan toad sculpture before vertus fluid mask

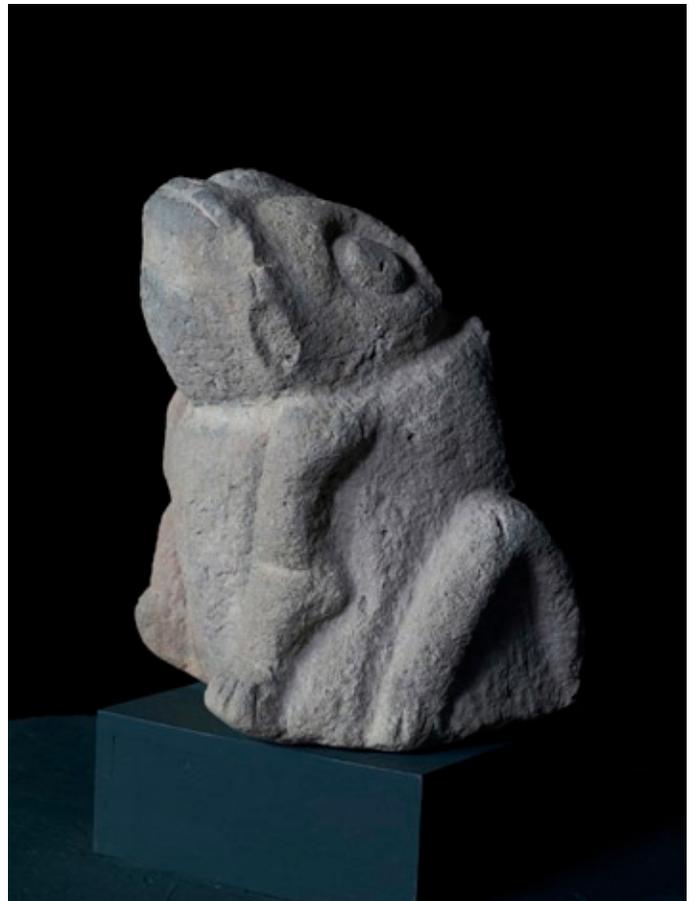
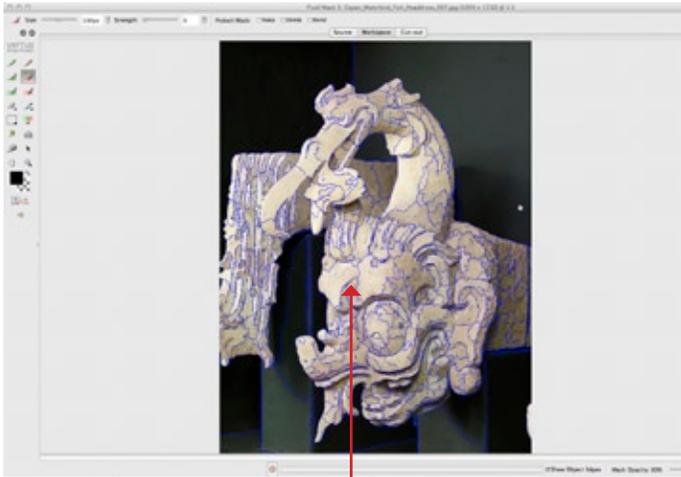
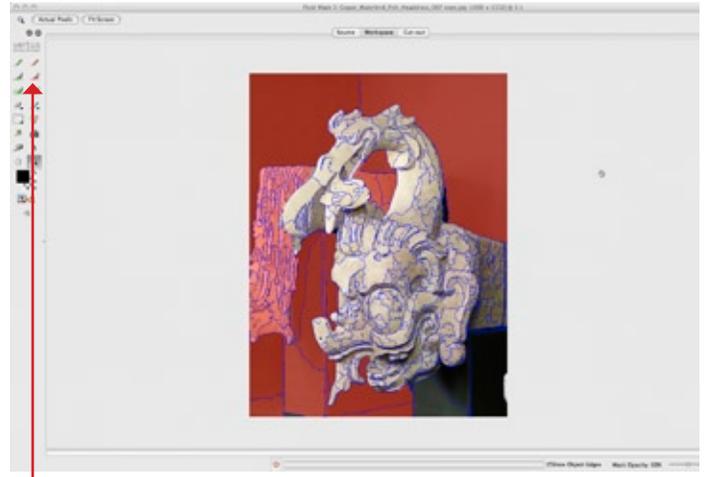


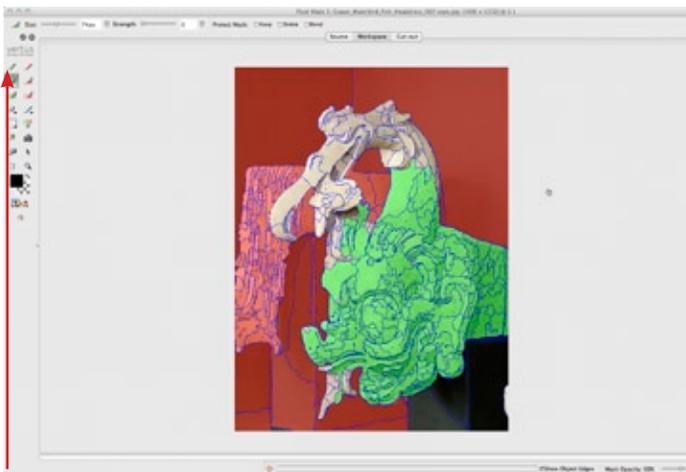
Photo of Copan toad sculpture after vertus fluid mask



Blue lines recognizing and selecting edges of the photo



Select the delete local brush and mask all the area you want to delete



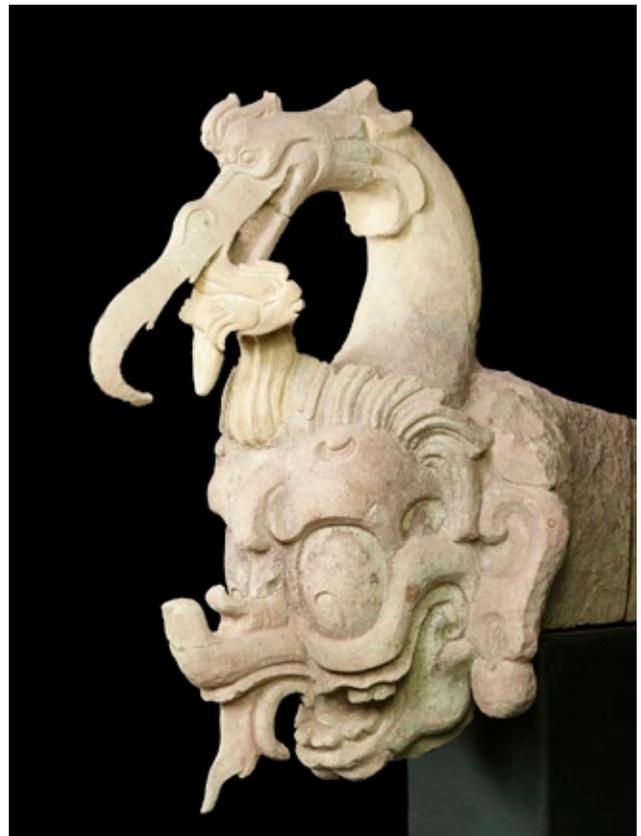
Select the keep local brush and mask the area you want to save



Select the cut out tool and then save and apply



*Photo of Copan waterbird fish headdress
before vertus fluid mask*



*Photo of Copan waterbird fish headdress
after vertus fluid mask*



Photo of Copan skull and bones sculpture



Photo of Copan long snouted monster face sculpture



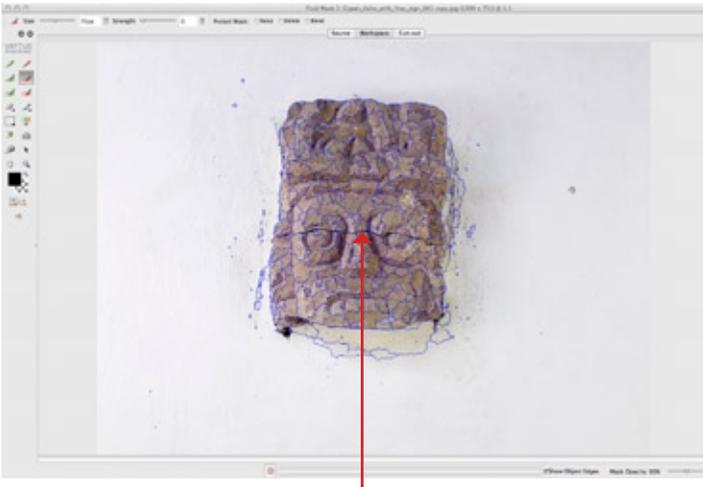
Photo of Copan rosalia macaw sculpture



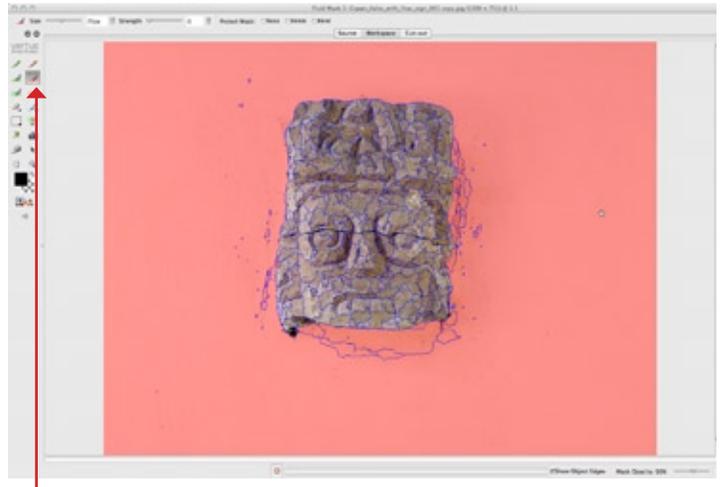
Photo of Copan Tlaloc goggles mosaic



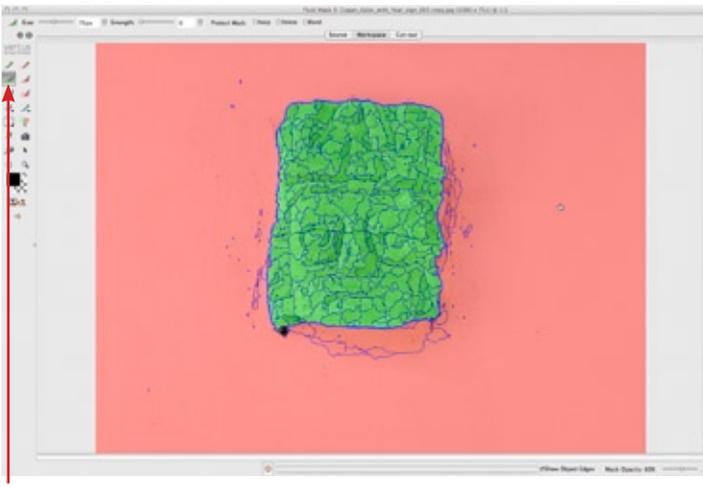
Photo of Copan Tlaloc with Yearsign



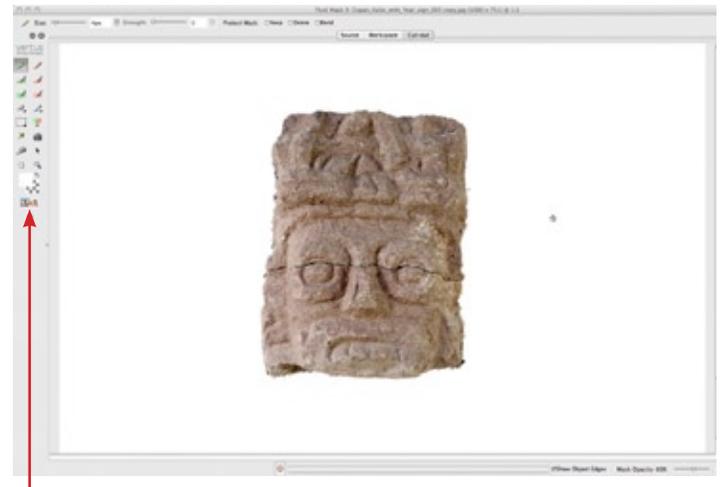
Blue lines recognizing and selecting edges of the photo



Select the delete local brush and mask all the area you want to delete



Select the keep local brush and mask the area you want to save



Select the cut out tool and then save and apply



Photo of Copan Tlaloc with Yearsign before vertus fluid mask



Photo of Copan Tlaloc with Yearsign after vertus fluid mask



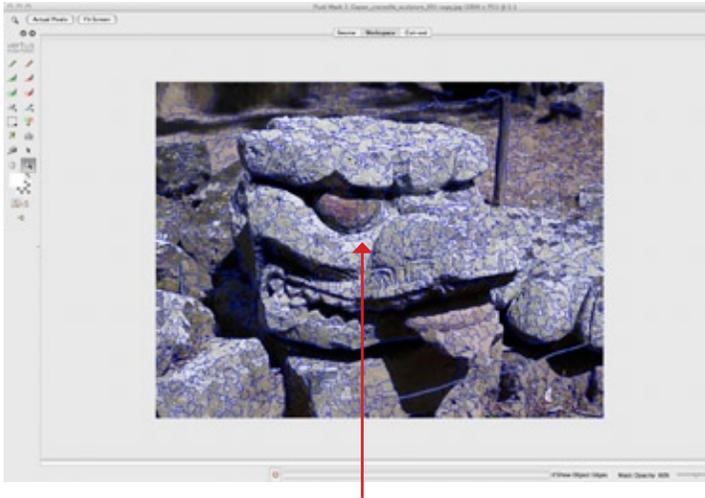
Photo of Copan structure facade mosaic



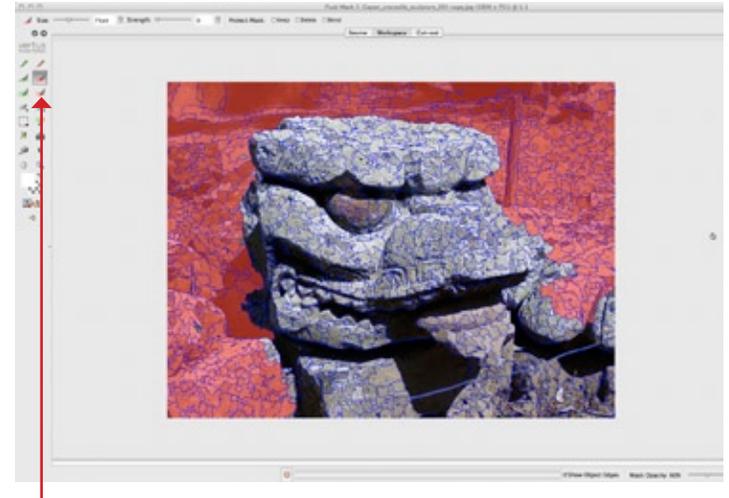
Photo of Copan Teo Yearsign bundle



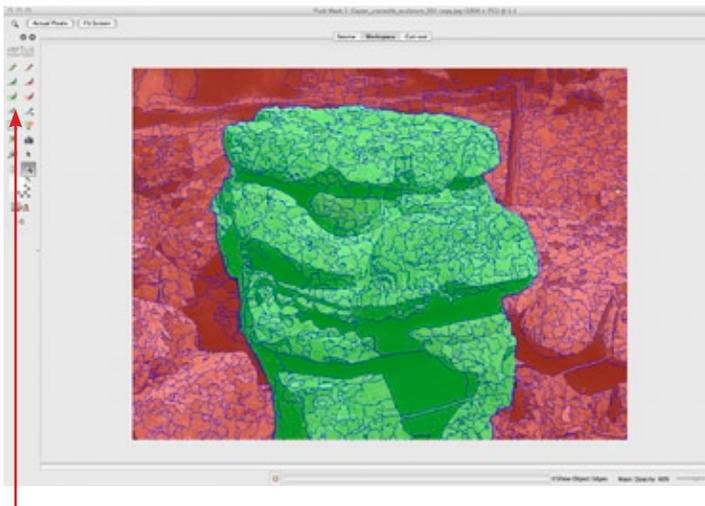
Photo of Copan facade mosaic sculpture



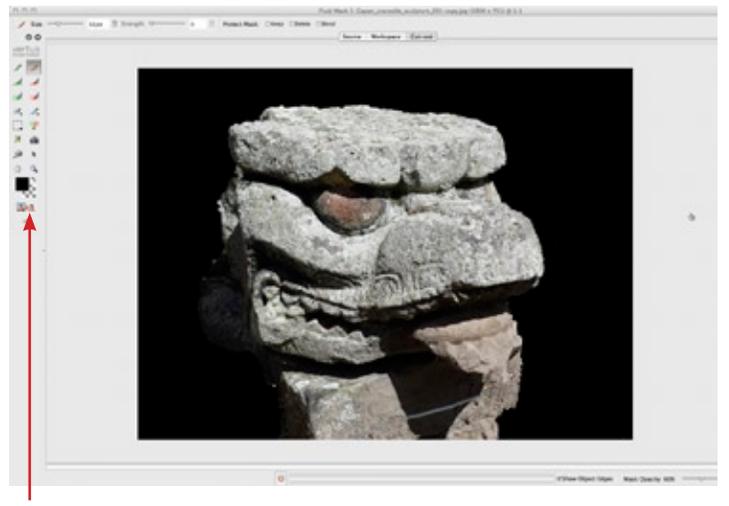
Blue lines recognizing and selecting edges of the photo



Select the delete local brush and mask all the area you want to delete



Select the keep local brush and mask the area you want to save



Select the cut out tool and then save and apply



Photo of Copan crocodile sculpture before vertus fluid mask



Photo of Copan crocodile sculpture after vertus fluid mask



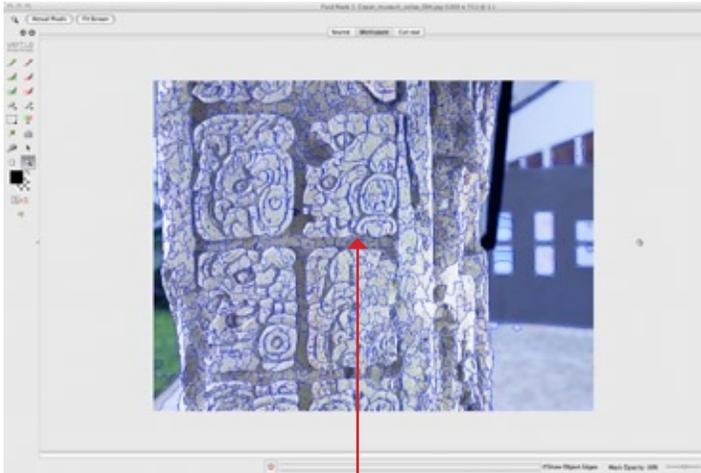
Photo of Copan stelae



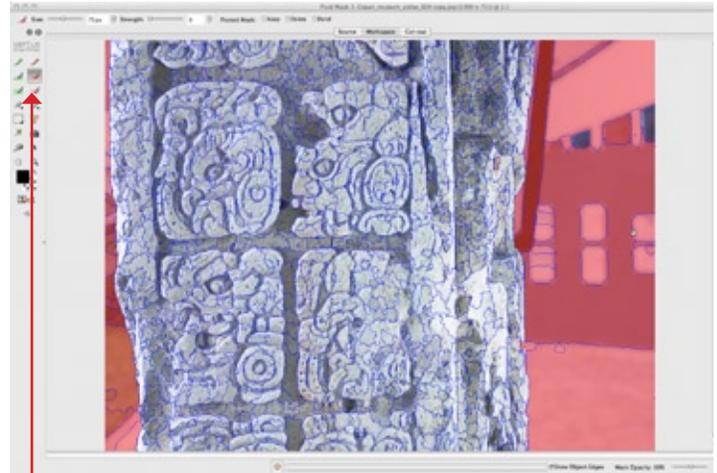
Photo of Copan stela



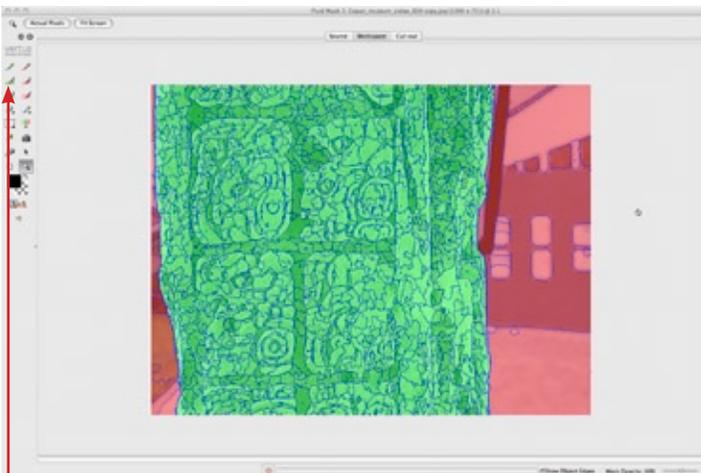
Photo of Copan stelae



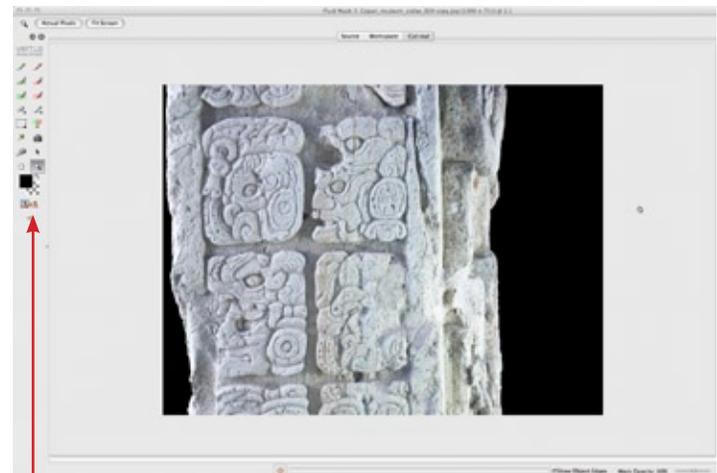
Blue lines recognizing and selecting edges of the photo



Select the delete local brush and mask all the area you want to delete



Select the keep local brush and mask the area you want to save



Select the cut out tool and then save and apply



Photo of Copan stela before vertus fluid mask



Photo of Copan stela after vertus fluid mask

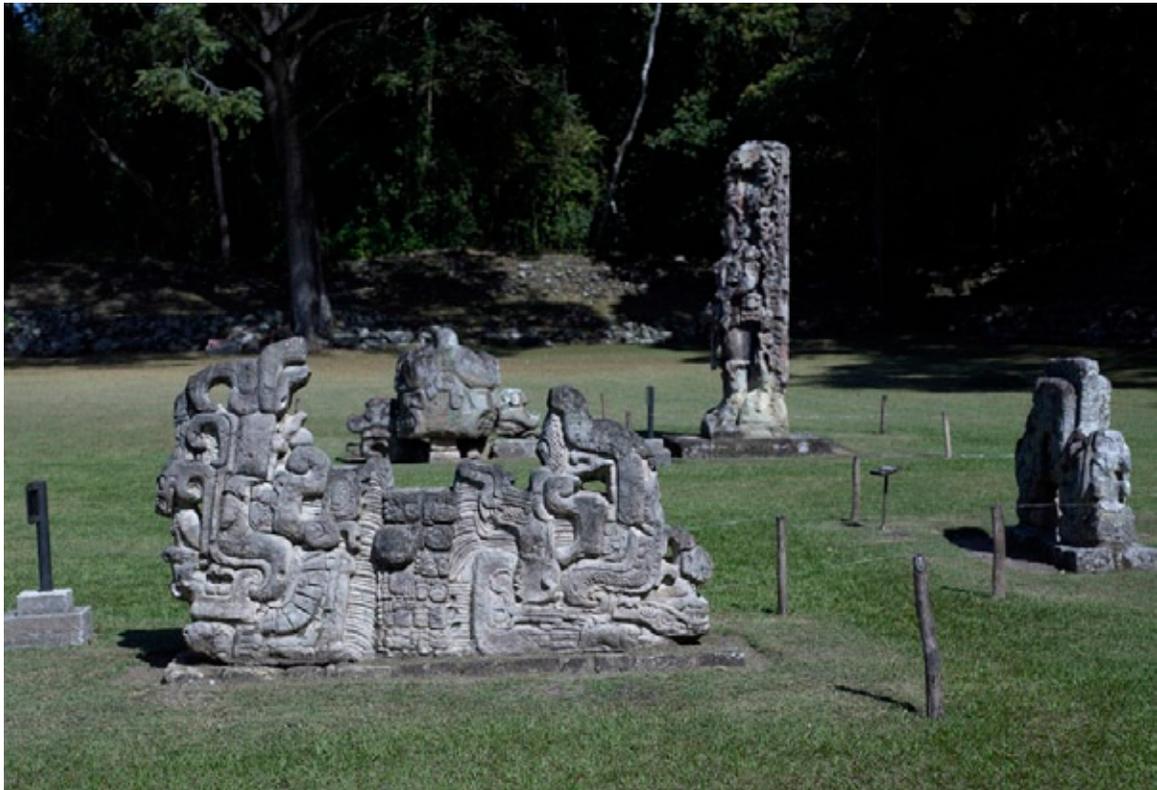


Photo of Copan CPN 13 Altar GI before

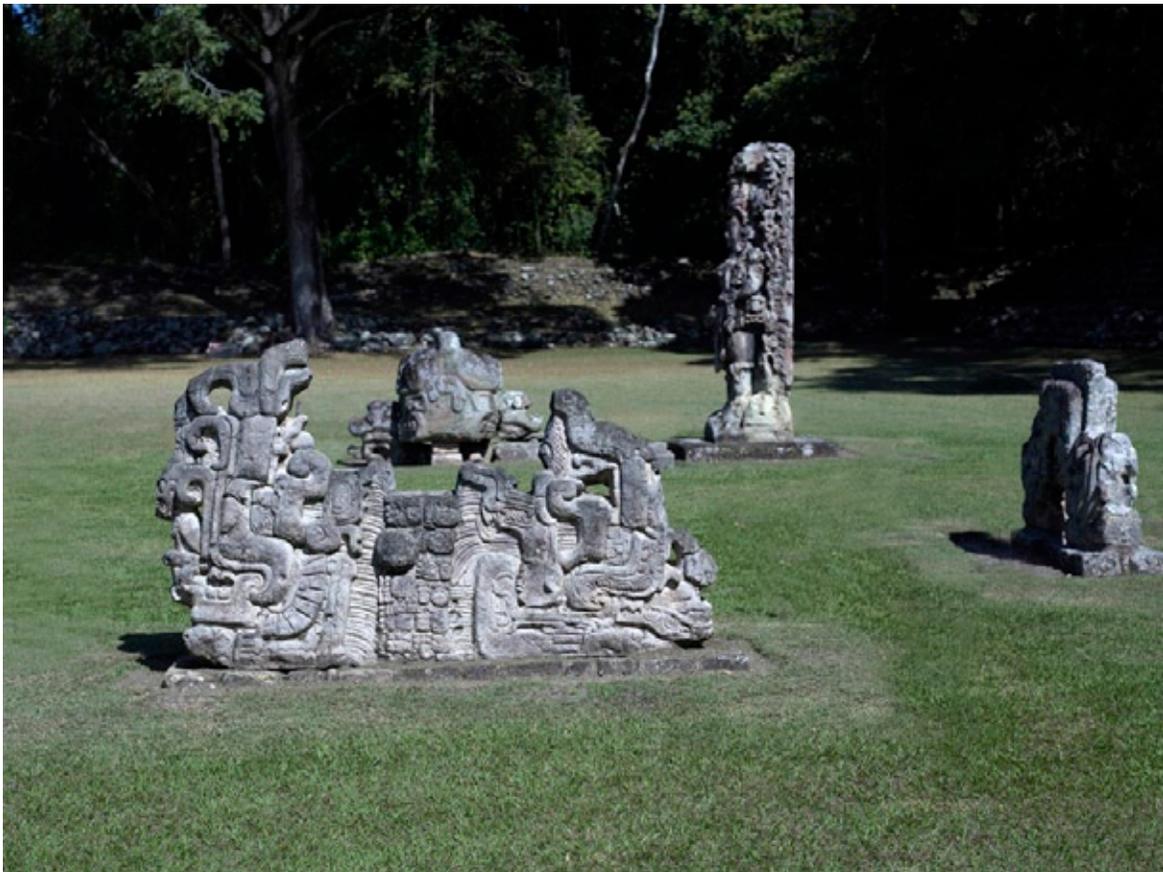


Photo of Copan CPN 13 Altar GI after rubber stamp tool in Adobe Photoshop to get rid of the unsightly posts and the sign in front of the altar



Photo of Copan Skyband Structure 8N-11 bench



Photo of Copan Skyband Structure 8N-11 bench



Photo of Copan Altar Q

Acknowledgements

We thank IHAH for providing permission to photograph in the Museo de Sculptura, Copan Ruinas, Honduras. FLAAR has a policy of providing copies of the resulting photographs so that the local governments can use these photographs however they wish. Since it was Christmas while we were working in Copan, it was not possible to meet all the IHAH people in person, but FLAAR has been photographing in Copan with permits several times over the past thirty years, so we are relatively well known to the previous administrators, museum guards, and tour guides. Indeed when I was in the village museum, I noticed that three of the photographs they featured on their wall were photographs donated to IHAH by FLAAR in past years. So I enjoy seeing that the photography we do for Honduras is used by them.

Jose Antonio Toro Miguel, Vigilante Nocturno, assisted setting up and taking down the lighting each day and in general helped us every event. We thank him for his help.

The local coordinator, Juan Antonio Rodriguez, also helped every day.

Photography was with authorization of IHAH. We thank the Gerente of IHAH, Dr. Dario A. Euraque, Subgerente Lic. Eva Martinez, Director of the Sitio Arqueológico Copan Ruinas Salvador Varela.

Photographs by Nicholas Hellmuth, FLAAR. The photography was assisted by Tina Kosir (University of Ljubljana, Slovenia).

We thank Calumet Photo for providing the Cambo Ultima 4x5 camera. I thank Cambo (The Netherlands) for providing the sliding back adapter. We thank Thomas Waltz president of F.J. Westcott for providing the special cool temperature digital fluorescent lighting: Westcott Spiderlites. We appreciate the Manfrotto tripod head and Gitzo tripod courtesy of Bogen Imaging. Greg Lamb, CEO of Global Imaging Inc, kindly provided the Phase One P25+ digital back.

Appendix A



Dr. Nicholas Hellmuth photographing Skyband Structure 8N-11 bench



Dr. Nicholas Hellmuth and Tina Kosir setting up for accurate gray-balance (color balance) to record the true colors of the Skyband Structure 8N-11 bench



Dr. Nicholas Hellmuth and Tina Kosir



Lucila Cantu setting a white sample for color balancing

Eduardo Sacayón setting up the Cambo Ultima 4x5 large format camera and Cambo sliding back adapter preparing to photographing the Moon Goddess, Rabbit Companion, Scorpion Constellation and other personified 6th-8th century AD Maya astrological characters on the Skyband Structure 8N-11 bench. Copan Sculpture Museum, Copan Ruinas, Honduras, Central America.



Appendix B



Cambo Ultima 4x5 camera



Cambo sliding back and P25+ Phase One digital back



Manfrotto tripod head and Gitzo tripod



Hoodman 16GB Card



Westcott Spiderlites