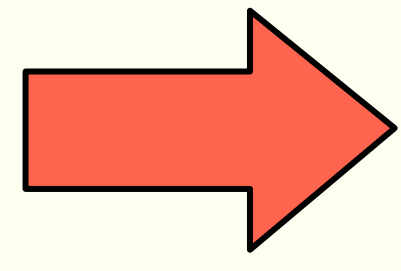


ABSTRACT - We describe an automated pipeline for digitization of catalog drawings of pottery types. This work is aimed at extracting a structured description of the main geometric features and a 3D representation of each pottery class. These will be used to populate a reference database for classification of potsherds and serve to build a massive set of synthetic sherd images that will help train and test future automated classification systems.

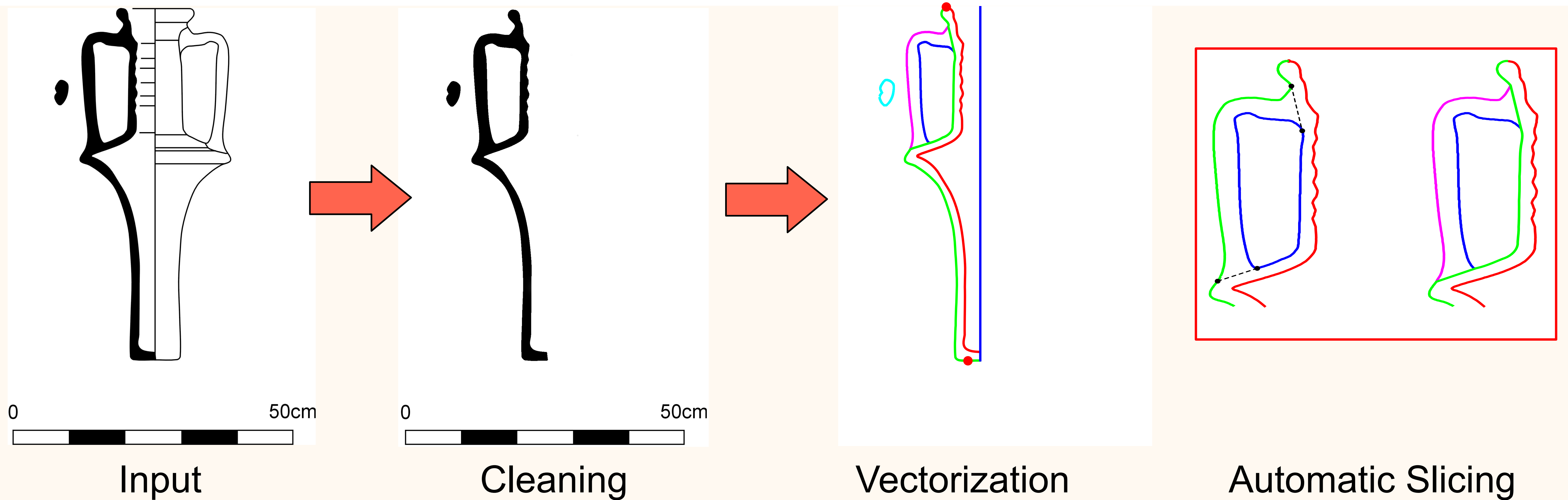
PROBLEMS:

- Automatic digitization of technical drawings
- Few photographs of sherds for deep learning training of a sherds classifier

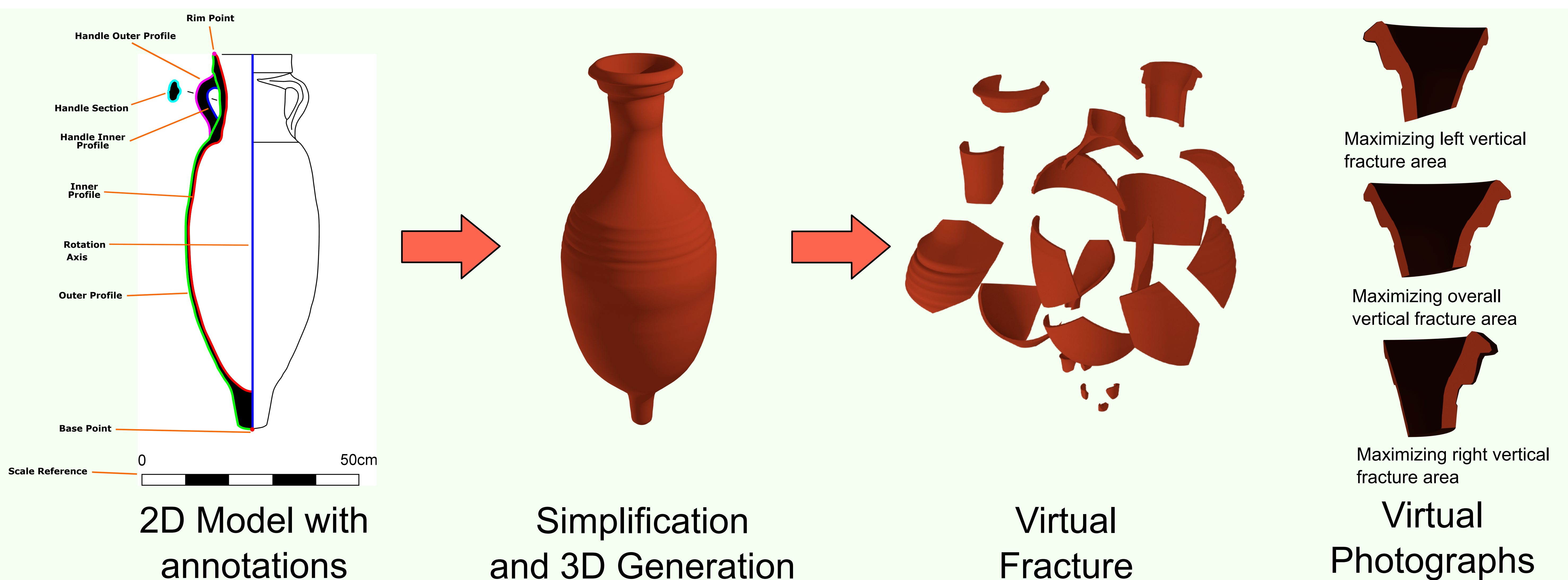


- NOVEL METHOD FOR TRACING TECHNICAL DRAWINGS
- GENERATION OF 3D MODELS FROM TRACED DRAWINGS
- GENERATION OF A LARGE DATASET OF RENDERINGS OF SHERDS FOR DEEP LEARNING TRAINING USING BROKEN 3D MODELS

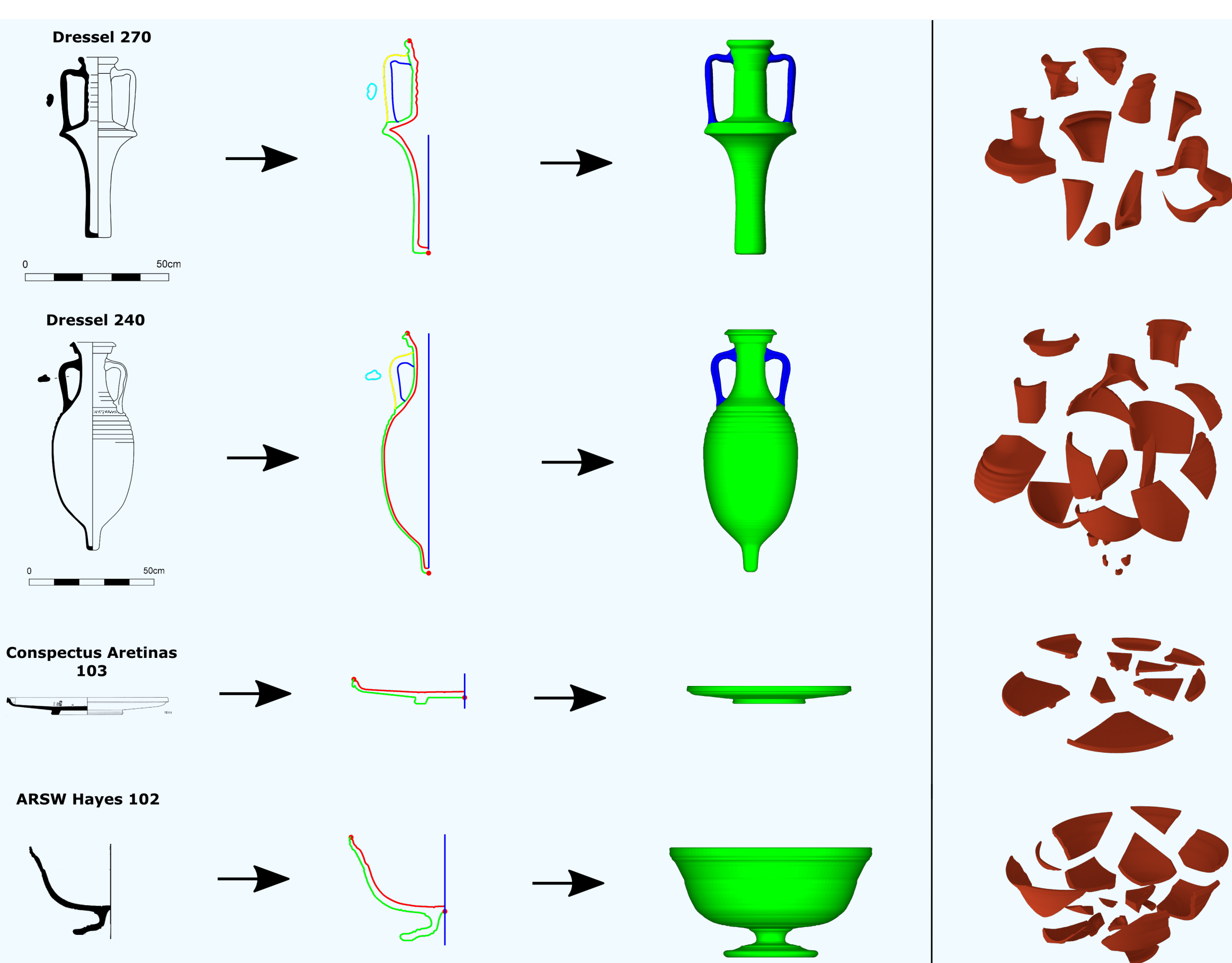
EXTRACTION OF GEOMETRIC FEATURES FROM DRAWINGS



GENERATION OF 3D MODELS AND SHERDS



RESULTS



CURRENT STATUS OF THE PROJECT

The process of generating virtual vessels from drawings is expected to play a major role in the automation of archaeologists' work. We have proposed a complete pipeline: from drawing to the generation of virtual sherds.

Our models, therefore, are "built to be broken" and simulate the ravages of time. At the moment, we are using such data to train deep neural networks to match recovered sherds and catalog drawings, since the collection of real-world datasets for this task is infeasible; i.e., too few photographs. However, 2D shapes extracted from real-world photographs will be employed in the testing phase.

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