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Radiocarbon Dating and the Protection of Cultural Heritage

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ABSTRACT. The modern antiquities market uses radiocarbon (¹⁴C) dating to screen for forged objects. Although this fact shows the potential and power of the method, the circumstances where it is applied can be questionable and call for our attention. Here we present an outline of a call to radiocarbon laboratories for due diligence and best practice approaches to the analysis of antique objects requested by non-research clients.

KEYWORDS : antiquities, cultural heritage, illicit trade, looting, radiocarbon dating.

BACKGROUND

Protection of cultural heritage is considered one of the most important national and international goals. Each nation has the right to protect their past and present cultural goods, both tangible and intangible. The fact that international involvement is needed has been recognized in the early 20th century. The need for protection of culture is essential for building peace as it was stated by founders of the UNESCO when it was established in Nov.–Dec. 1945. In 1970 a UNESCO Convention on the protection of cultural heritage was published and recognized by most of the countries. Concerns of the post-WWII era were with the destruction of cultural heritage that wars and crises impose on whole communities (Gerstenblith 2008).

The present-day antiquities trade is operating in a world that is far from being free of conflicts and wars. It is a most striking fact that the remains of old cultures and civilizations are located and endangered by conflicts and looting. Illicit trade of antique objects is driven by the demand for antiquities in countries outside of conflicts. Huysecom et al. (2017) have shown that on the part of buyer this demand is accompanied by the need for a secure investment. Whenever possible, antiquities on the market are tested using scientific methods such as thermoluminescence (TL) and radiocarbon (^{14}C) dating. However, the use of the scientific techniques and involvement in authentication appears questionable and raises ethical issues similar to those faced by conservators (Sease 1998).

The radiocarbon community has recognized this problem and is committed to following due diligence protocols, which will help to minimize the involvement of laboratories in providing data for illegally displaced antiquities.

Here, we propose the first measures that can help to minimize access of the illicit market to radiocarbon analysis and to prevent misuse of ^{14}C ages in promotion of illicit trade and looting. This would also protect the radiocarbon laboratories. These procedures are proposed to be applied when the analysis is requested by private persons or for-profit organizations such as auction houses, antiquity dealers, and private collections (sometimes private museums).

PROPOSED PROCEDURES

1. All radiocarbon laboratories that have agreed to follow the guidelines proposed below (points 2–7) are listed at www.radiocarbon.org (under the Laboratories tab).
2. Radiocarbon laboratories providing ^{14}C ages as a service to external users have a clear statement on their webpage about their policies (including required forms and documents)—each laboratory is free to formulate their own forms or requirements.
3. The following documents should be requested and reviewed by ^{14}C laboratories prior to the agreement of sampling:
 - a. Pictures of the object
 - b. Declaration of origin (country of origin, provenance) for antique objects.
 - c. A declaration that the submitter is the owner, or acting for the owner.
4. Laboratories accepting samples in the form of graphite or CO_2 request the above-stated information from their satellite laboratories
5. The 1970 UNESCO Convention is the baseline for the acceptance; however, the legislation of some source countries predates 1970. In other countries, the effective date is when the treaty was ratified in that country.
6. Objects from critical regions and countries, with questionable provenance, should not be accepted, nor should they be forwarded to other laboratories as a potential request.

7. An inter-laboratory support group operating via Google discussion group will provide an opportunity to ask questions and share experience.

Useful links and documents can be found at www.radiocarbon.org and <http://www.ams.ethz.ch/LIPServices/radiocarbon-dating-and-protection-of-cultural-heritage.html>.

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