The Future of Underwater Archaeology

Dr Constantin Chera, President of the Scientific and Technical Advisory Body of the UNESCO 2001 Convention on the Protection of the Underwater Cultural heritage.

There are three subjects, which we consider important when trying to develop a strategy regarding the future of underwater archaeology. They are at the same time linked to the present situation of cultural heritage all around the world: research, restoration-conservation and legal provisions.

First of all, research in this field has known a spectacular development due to more or less sophisticated equipment for the location of sunken ships or artifacts, but also of flooded building structures created by human activity. The evolution of such technical means is one factor, which can lead us into future better understanding of our civilization by enlarging our knowledge about our history. Because every single newly discovered element in such until recent difficult to access environment can contribute to enrich, at least with one page, the history of our planet. As a whole, this generous environment is a deposit of a large quantity of cultural heritage, more and more accessible for research and valorization. Even if in future, such heritage will still encounter accidental or intention destruction by people, enterprises or even states, not responsible or educated enough to understand the importance of underwater cultural treasures, the results of archaeological research under water are also in a delicate position, which must be fostered with utmost care. It is the task of future specialists to decide which of the discovered objects they have to leave on the spot and which to restore and present to the public, in permanent or temporary exhibitions. In our opinion, one of the most important issues regarding this particular kind of heritage should be in future to outline an efficient methodology to advice specialists what measures they have to take, when they encounter one or another situation. It would be a useful manual for underwater archaeologists, which would contain not only excavation regulations and recommendations, but also restoration and conservation ones. An accompanying catalogue and a list of good practices would have to complete the foreseen manual, with examples for as many situations and materials as possible. The problem how to handle and manage large dimensions discoveries is one of the most stringent for the future of our investigations. I would like to bring to your attention only two significant cases: “Gustav Vasa” and “Titanic”, both of utmost value as cultural heritage. If the first one is safely
sheltered in a museum, with all contained artifacts (after massive investment in its conservation), the second one unfortunately still lies exposed to looting (even if in great depth, on the bottom of the ocean), due to advanced technical means at the disposal of individuals, more or less aware of their destructive activities. What will become of the second if the implied parties will not reach agreements as soon as possible, to protect the site from further destruction? This symbol, a famous sample of early twentieth century life and navigation, will suffer further, until it will only be a rotten piece of metal with no significance whatsoever. No surveillance and deeper probing, with remote operating vehicles and complex technology, endangers not only the mentioned objective, but also a large number of others, already known to treasure hunters. The word treasure means not only precious metals, but also all kinds of heritage objects, which have market value. Examples in this respect could continue and it is the duty of law enforcement authorities to protect the national and international heritage. As is the case with artifacts illegally excavated on land (see constant looting in southern Italy, in ancient Basilicata), the ones coming from underwater sites are valuable merchandise for those investing in such illegal activities. A better surveillance, not only of such individuals or organizations, but also of the markets negotiating objects with cultural significance, arbitrarily extracted from their archaeological context under water, should be a constant concern for nations really cherishing their and sometimes universal cultural heritage.

The future should bring about a more complex surveillance system to monitor all existing evidence of human history and adverse human activity under water. This system already exists (see military satellites activities) and it takes only determination from specialists, implied public and private bodies, but also financial resources, to convince responsible authorities to use these possibilities for protection of our common heritage.

Even more difficult for archaeologists is now research in rivers, lakes and lagoons, due to sometimes very poor visibility and other unfavorable circumstances. That brings us back to future development of special equipments for such environments, sometimes even more difficult to investigate, because of more or less strong currents. Only advanced solutions will permit such research in future, so existing technologies must develop to the point of putting at the disposal of archaeologists some secure and efficient technical means, developed for instance from present applications, such as protective domes or precincts capable of isolating a certain surface from being flooded. A good example in this respect is the huge archaeological salvage excavation site in the area of the Byzantine harbor in Istanbul. Of course, there are also situations when the archaeological layer lies deeply buried under thick sand or mud deposits and it is again applied technology, which could help us determine the configuration of respective archaeological structures. Though already used in other fields, investigations must be adapted to special conditions, very different from site to site.

Such methods would be in future the already known magneto metric measurement scanning of the waterbed, with different energy parameters, the use of deep probing sensors of different types, but also taking continuous vertical samples (carrotage), where long term geological deposits can give some
answers, regarding the evolution of human communities, along the sea-, river- or lakeshores. Not long ago our colleagues at the GEOECOMAR geological institute in Constanta, Romania, have applied these methods at a Byzantine naval base from the 10th century, situated partly on an island and another part in the riverbed of the Danube. The good results we obtained encourage a future application at other similar locations.

A second important item on the agenda of future archaeological evolution is restoration and conservation of objects discovered under water, from the tiniest to the largest ones. It is a complex matter, to which only an inter-disciplinary approach is the answer. Research regarding chemical and biological on-site and laboratory analysis methods must be an important aspect in future restoration and conservation of underwater cultural heritage. We have to develop new, efficient and rapidly acting materials, so that we can adequately treat different types of objects, as soon as we recover them from the liquid and often salty environment, in which they have stayed for a long time. The large array of textures and compositions encountered at such documents during excavation, their fragile state and their long-term storage and preservation are most important for archaeologists and restorers as well, if they intend to keep them for future generations.

Training specialty personnel for underwater excavation and restoration is one of the subjects on which the last meeting of State Parties to the Convention has already largely debated. It is a priority for competent future investigations. It is also a great, substantial step forward that UNESCO and Croatian authorities recently enhanced quality and material basis for such specialists, by inaugurating the regional center for underwater research and restoration in Zadar. As already done during last summer, in future a certain number of interested young archaeologists and restorers will have the opportunity to attend the courses there and get some knowledge to apply at the underwater investigations in their countries. As far as I know, there is another such center in Thailand. As this activity will be more and more attractive to younger generations of archaeologists, the need for developing their professional skills will probably determine responsible authorities to finance opening more such institutions.

As financial resources for proper excavation, restoration and conservation of large objectives, such as large sunken vessels, are scarce and there are limited possibilities to finalize work, last recommendations are to clean and preserve them in situ. All the same, there are solutions for salvaging endangered objectives by public-private partnerships.

A limitation of human intervention in this sensible environment is the best solution too for protected species living in different areas. Archaeologists and biologists can often establish close connections between cultural and natural underwater heritage. In our opinion the example of valorizing some underwater discoveries by archaeologists-guided visits to underwater sites and their video monitoring, applied in Sicily by Soprintendenza del Mare is a most adequate example for underwater cultural heritage management. Future can already be reality: anyone interested can experience it himself
while visiting a history museum and looking at a Roman shipwreck on a large screen, in the same position as it has sunk many centuries ago. Like those we have established on land, we must identify and outline in future more underwater areas in need of legal protection, exclusive zones where economic, commercial and traffic activities, even sports diving would be prohibited.

A series of actions and measures could make underwater archaeological objectives more accessible to the public in future: establishing a network of internet sites, all showing such objectives, making of educative movies to explain the importance of UCH and prevent looting, more public conferences about this subject.

Regarding the third important aspect concerning future evolution of underwater archaeology, one must admit that legal provisions as measures for heritage protection are not at all a priority for certain states, rather interested in individual, selfish goals than in preserving universal history in this particular environment. This is why efforts must be done in future to convince public opinion to act responsibly, to overcome local national interests, to become aware of the risks implied by lack of responsibility, to lobby for adopting the Convention by explaining its noble goals and to determine politicians to adopt specific legal measures. It must be clear for everyone that UCH is not only property of one or more nations, but also a treasure of all humankind. In future, it must reach all interested people by means of scientific and public valorization. Unauthorized interventions must stop immediately and all efforts are necessary to prevent destruction of UCH. Cooperation on official, institutional, individual levels between states will be necessary to reach these objectives. From scientific point of view, for each country a database is extremely important for future research and valorization strategies.

An open mind is required from all stakeholders, from archaeologists trying to bring the light and culture of humanity to everyone from beyond the waves, to political personalities capable of understanding this message.

Each one of the above-mentioned aspects could give us an almost complete image about the future of underwater archaeology.

Humanity must become more and more aware of its part in preserving its own heritage.