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Okuwaki, Naoya

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ON MARINE RESEARCH AND SURVEY IN THE UNITED NATIONS CONVENTION ON THE LAW OF THE SEA

Naoya OKUWAKI*

1. CONCEPTS OF MARINE RESEARCH

1.1 Introduction

This paper discusses issues arising when sorting out various types of marine research and survey activities, though it is very difficult to categorize precisely provisions related to them in the United Nations Convention on the Law of the Sea (UNCLOS).

Recently, many problems have occurred concerning the activities of marine research vessels in Japanese waters, such as the anomalous activities of Chinese boats around Okinotori-shima Island, Chinese vessels cruising under water off Okinawa and passing between the chain of islands of Okinawa, and obstructive operation against the Japan Coast Guard's research vessels. Troubles have also occurred on an international level, for instance, harassment by Chinese ships against U.S. military research vessels near China. To begin with, marine research and survey activities comprise scientific research, military surveys, resource explorations, and many other elements—among which, specifically concerning scientific research and military surveys, UNCLOS has unclear provisions or lacks provisions altogether. In addition, it is uncertain what activities are specifically allowed to be conducted during such research projects, how to sort them out, and according to what standards. Therefore, a significant problem regarding the Law of the Sea is what responses are possible or necessary for these types of marine research within the limitation of our knowledge obtainable from their appearance under these conditions of uncertainty.

Marine research involves various concepts and forms of research. Even if some research activities share a common appearance in the behavior of vessels, the studies may be different from or confusingly similar to each other in terms of the operating entities, purposes, forms, and information management. For example, there is a kind of research called hydrographic surveys. They have many variations, such as one for ensuring the safe navigation of vessels and one for determining routes of submarine cables. While UNCLOS differentiates research and surveys with the phrase "research or survey activities" (Article 19, paragraph 2 (j)), research is, in any case, essential in order to use the sea. Put simply, hydrographic surveys are necessary for ensuring the safe navigation of vessels.

Research for military purposes—usually called military surveys—shares some common elements with research for scientific purposes, and it is uncertain whether or not surveys conducted by warships can

* Professor, Law School of Meiji University, 1-1, Kanda, Surugadai, Chiyoda-ku, Tokyo, 101-8301, Japan, Email: okuwaki@isc.meiji.ac.jp

be regarded as non-scientific surveys. In fact, while many of the data and information obtained from research for military purposes are the same as those collected during marine scientific research, some military surveys include activities called intelligence gathering or surveillance, which collect information as a military operation for the purpose of detecting submarines. We cannot know their actual details because they are concealed from the public. Even normal data on sea currents, ocean temperatures, salinity and other such factors are not disclosed if they are obtained during research by warships. Because these data are assumed to be used in emergency situations in the same way as military hydrographic surveys, knowing the nature of the data the military have obtained—locations where the research was conducted, matters researched, and the amount of data collected—is critical in inferring the capability and operational nature of the military of a potential enemy. As long as the seas are utilized for military purposes, the military must be conducting such research activities as a matter of course.

Next, I discuss resource exploration activities. Among research activities, those which are termed *prospecting* or *exploration* are conducted in order to examine the possibility of exploitation prior to the actual commencement of the exploitation, or they are experimentally carried out during the preparation phase. Unlike exploitation activities, these activities might sometimes be difficult to distinguish from research and surveys. For example, drilling on the seabed is undertaken by deep earth drilling vessels for revealing the internal structure of the earth, which is for a purely scientific purpose. Data obtained from this research, however, can also be useful for resource exploration at the same time. In this sense, it is very difficult practically to differentiate exploration and research or survey activities.

Finally, I provide an overview of marine scientific research (MSR). UNCLOS has no explicit provisions for defining the concept of marine scientific research. While UNCLOS Part XIII includes a series of provisions regarding marine scientific research, we cannot do anything but interpret criteria for distinguishing MSR from other types of research and surveys by answering the following questions: what is the reason that such provisions were inserted in Part XIII without the definition of MSR?; why was the consent regime established for MSR?; and, why are coastal States allowed such involvement?

1. 2 Military Surveys and Scientific Research

The most important problem with respect to the missing definition of marine scientific research in UNCLOS concerns the so-called military surveys. One example related to Japan is research activities by Chinese government ships around Okinotori Island. Chinese governmental or military ships are conducting some research or survey activities for unknown purposes. So, both the Ministry of Foreign Affairs of Japan and the Japan Coast Guard call these research activities by China *anomalous activity*, which is defined as behavior whose characteristics cannot be clarified, whether military surveys, scientific research, or activities implying a demonstration expressing objection against the establishment of a Japanese EEZ around Okinotori Island. Attitudes toward military surveys inside the EEZ vary among coastal States. China seems to adopt the position that military surveys inside the EEZ must also be subject to the laws and regulations of coastal States. Because scientific research requires consent from coastal States and the activities in question are carried out without such consent, suspicion would arise from the Japanese point of view that the activities might not be scientific research but rather military surveys. On

the other hand, the position of China leads to the view that the region surrounding Okinotori Island is not the EEZ, but the high seas where the freedom of scientific research applies in a straightforward manner.

So, the problem is what kind of attitude UNCLOS takes toward military surveys. UNCLOS, however, never mentions military surveys. It lacks provisions concerning military surveys actually. Given that military surveys are a traditional sort of activity, it seems strange that UNCLOS has no provisions for them. In fact, military-related matters are almost entirely neglected in UNCLOS, which implies that UNCLOS has been established on the basis that it does not deal with issues about which States are expected to have sharply conflicting views. While UNCLOS is known as the Constitution for the Oceans, it can also be said that this Constitution actually lacks some important elements. There are various arguments about what is implied by the lack of such provisions. One possible view is that the freedom of research is applied, because military survey has been permitted in tradition and specific provisions are missing in UNCLOS to prohibit it. This view maintains that the traditional freedom to conduct military surveys still holds because they have long been carried out within the freedom of the high seas, and they should remain untouched because UNCLOS has no definite provisions to prohibit them. It also argues that, even after the introduction of the EEZ scheme, matters outside the sovereign rights of coastal States in an EEZ should remain regulated by the principle of the freedom of the high seas, as previously was the case, and military surveys in the EEZ of other countries are accordingly free to be conducted.

There is also a counterargument that military surveys are generally prohibited by UNCLOS—i.e., they require permission from coastal States—not only within their territorial waters but also in their EEZ. This argument is based on the concern that data resulting from research by the military may also be useful for resource exploration and exploitation. However, military activities in such waters, except for other countries' territorial waters, seem generally accepted. Practically, for example, China is conducting military activities in other countries' EEZ. In this sense, the general international law does not necessarily prohibit military activities in those waters. Given that military use of the ocean is tolerated, it should be generally impossible to argue that military surveys are totally prohibited.

Military vessels' draft of water is much deeper than normal commercial ships' draft because warships need to enhance operability. Therefore, they usually pass through routes that are known to be safer on hydrographic maps. During actual military operations, however, they may have to sail in waters that they do not usually use out of military necessity. If warships are to navigate safely, they must know in advance the seabed topography of those waters through which they would need to pass during operations. In addition, sea currents, seawater temperatures, or salinity in those waters may have significant impacts on the performance of undersea sonic equipment owned or operated by the military. This leads to the necessity of prior knowledge at least about the location of safe routes above the EEZ seabed from a military point of view. Failure to conduct military surveys in advance would result in acceptance of extremely dangerous and adventurous military operations, also posing a threat against the security of coastal States that are not immediate enemy countries. This argument, of course, would not apply at all if it were based on the assumption that every military activity is prohibited.

As for territorial waters, because peace, order, and security must be protected for the coastal State, it is disquieting for foreign warships to always sail by the coast lines within the territorial waters. For this reason, UNCLOS prohibits hydrographic surveys within other countries' territorial waters by establishing

so-called "deemed" provisions postulating that such surveys deprive passage of its innocent character. Hydrographic surveys within territorial waters obviously require permission from the coastal State. From the viewpoint of the coastal State, on the other hand, if foreign countries were to identify navigable routes along their coast lines in detail, it would mean that foreign warships could easily enter those waters in emergency situations. Therefore, it is logical to presume that if hydrographic surveys are conducted without the coastal State's awareness, it will cause a security problem for them. In territorial waters, activities not directly related to navigation generally require consent from the coastal State. However, issues of reconciliation with the nature of the coastal State's rights extending to the EEZ—especially reconciliation with their sovereign rights or jurisdiction—are obviously on a different level from issues of reconciliation with the territorial sovereignty. If so, the prohibition of military surveys within the territorial waters cannot directly lead to the prohibition of military surveys in the EEZ. We need to consider this issue while carefully examining interpretational differences between marine scientific research and military surveys.

1. 3 Factors for Differentiation

Because UNCLOS lacks provisions concerning military surveys as well as the definition of marine scientific research, it is necessary to look for differentiation between them based on the essence of provisions in the Law of the Sea in order to regulate them. It follows as well that coastal States also need to take policy measures consistent with such differentiation.

Seeking the differential criteria in UNCLOS, two factors are readily apparent. First, UNCLOS provides that marine scientific research shall be conducted *exclusively for peaceful purposes* (Article 240 (a)). The principle of the *peaceful use of the sea* is also set out as a general provision for UNCLOS as a whole (Article 301). Then, the problem is whether or not military surveys are conducted *exclusively for peaceful purposes*. In general, the generally accepted definition of the term *peaceful* for the purposes of international law is not *non-military* but *non-aggressive*, and practices have been accumulated in line with this definition. The same applies to the Outer Space Treaty and the Antarctic Treaty. In summary, all that can be said is that *peaceful purposes* do not represent *non-military* but rather *non-aggressive*—i.e., activities in a form leading to the invasion or infringement of territorial integrity or political independence of other countries, which are prohibited by the United Nations Charter—and activities expected to directly lead to such undertaking are not regarded as being conducted *for peaceful purposes*. Thus, the common argument is that marine research activities by warships or involving some elements of a military nature are not immediately contrary to *peaceful purposes*. Marine scientific research is, however, required to be conducted *exclusively* for peaceful purposes. Therefore, even when military surveys are consistent with the peaceful use of the sea, it does not directly mean that they are equivalent to marine scientific research. At the same time, it is not necessarily true that surveys with vessels or equipment owned and operated by the military do not correspond to marine scientific research.

For example, observations and base activities in Antarctica are conducted with the help of the military, which is not against the principle of peaceful use. The military also participate in space activities. In fact, many military satellites have been launched. These activities are not regarded as a violation of the principle of peaceful use of the spatial order in outer space. The installation of military bases and

deployment of a large quantity of weapons in outer space are specifically prohibited. In short, from the international point of view, the idea of peaceful purposes in no way requires that the activities be *non-military*. In the same way, military activities by warships in the ocean are generally allowed, and the right of innocent passage of warships in territorial waters has also been confirmed. Given the above, it is probably impossible to argue that activities by military vessels in the high seas do not fall into *the exclusivity for peaceful purpose* as they are. In this sense, research projects cannot necessarily be differentiated based on whether or not they are carried out for peaceful purpose.

The second factor is that marine scientific research aims at expanding the benefit for mankind by enhancing human knowledge of the ocean. To embody this aim, UNCLOS Part XIII provides obligations in considerable detail that information resulting from scientific research activities be published and disseminated to accumulate mankind's scientific knowledge (Article 244). On the assumption that such obligations to release information (*publication and dissemination, promote the flow of scientific data and information*) or that sharing and *transfer of knowledge resulting from MSR* are at the core of marine scientific research, it is impossible to expect such things from the military. In principle, information gathered by the military will be undisclosed and concealed, because if the military were obliged to disseminate the information that they gathered, they would provide potential enemies with clues to their capability of information gathering or research as well as strategic plans. This problem—which routinely occurs on various fronts—is very difficult to treat in the context of international law. For example, even when the government designates some groups as terrorist organizations, they never release the list of individual terrorists. The military intelligence department has this list. This results in the problem that the validity of this list is impossible to verify.

In the case of marine scientific research, the obligation to make public the data and information obtained through such research is central because it should be conducted for the interests of human beings as a whole. Thus, UNCLOS provides that scientists must publish information they have gathered as soon as possible. For scientists, however, a serious problem is the meaning of the term *as soon as possible* above, i.e., how soon do they need to publish such information. If they were required to publish information they gathered immediately, it could open the door for other scientists who had not conducted any research to publish studies using these findings in a slipshod way. Sincere scientists would feel that this is unfair. If so, they would not like to disseminate their data for at least one or two years. This means that determining whether or not they have met the obligation to publish will take a considerable number of years. Therefore, for law enforcement agencies that are in charge of control activities of research vessels on the seas, whether they assume the obligation to make public the research results cannot be a useful criteria for judging the nature of activity conducted by such vessels. The criteria for the purpose need to be usable in order to make an immediate judgment on the spot, to determine the possible nature of any research from its appearance, and to reach a conclusion as to whether or not any enforcement measures should be taken. Additionally, regarding the case of marine scientific research in the EEZ, as mentioned later, coastal States have the right to request not to make public the information collected. That is, when the coastal State gives consent to foreign research vessels for conducting research in the EEZ, the coastal State is granted the right to request that the vessels suspend or give up on disseminating the collected data. Given that such a right is granted, it is also possible that information or data even resulting

from purely scientific research will not be released for a long time. If so, the problem is that the effectiveness of these criteria would be uncertain even retrospectively after a long period of time.

In addition, purely scientific research by vessels owned or operated by the military has also been traditionally conducted. The research in Antarctica, which I mentioned before as an example, is probably an activity that has to be conducted by military personnel who have undergone training for scientific research at the risk of their lives. In the same way, when research activities are undertaken in the ocean, especially in waters that are dangerous to sail, vessels owned or operated by the military are often used. For example, the special submarine called Nautilus was used for research under the Arctic ice. Scientists conducted the scientific research on board the special submarine that remained under the ownership of the military. Scientists are allowed to conduct scientific research on condition that the activity would be suspended and a military operation would be started immediately in the event of an emergency during the project. Prior to this research project, scientists were told to sign a pledge to express their agreement to these conditions. In this case, while the activity would be regarded as purely scientific research as long as the submarine was sailing under the Arctic Sea where the research was carried out, the status of the submarine would remain a vessel belonging to the military. In this sense, any submarine could continue sailing as a military vessel for purely scientific research. Research may also be conducted with funds from the military. In this case, it is not easy to determine that the research is not purely scientific, but rather military. In either case, as shown above, it is very difficult to draw a clear line between marine scientific research and military surveys.

2. DIVISION OF WATERS AND JURISDICTION OVER MARINE RESEARCH

2.1 Territorial Waters

What issues regarding marine research are treated in UNCLOS as a whole including provisions in Part XIII? As mentioned before, the provision of Article 19 concerning the right of innocent passage in the territorial waters incorporates the so-called "deemed" provisions of non-innocent passage, i.e., activities considered as prejudicial. Such activities are often conducted by, but not limited to, the military. Most of the "deemed" provisions listed in Article 19 about activities considered as non-innocent seem to mention activities by the military, except for matters related to fisheries, and intentional and material infringement on marine environments. Among them, Article 19 paragraph 2 (j) says "the carrying out of research or survey activities." The order from (a) to (l) in Article 19 apparently implies that these provisions are listed in the order from what the military might tend to conduct to what non-military vessels would carry out. The item *research or survey activities* is listed next to the pollution of marine environments and fishing activities, which might mean that these provisions do not assume such activities to be conducted by the military. They may also, however, be carried out by the military. If those activities are conducted by the military, they are also non-innocent as a matter of course. If, however, such activities are actually treated as non-innocent, those conducted by the military should have different effects from those carried out by marine research vessels.

If military vessels are conducting *research or survey activities*, all that can be done would be to ask them to cease the activities and drive them out of the territorial waters, because it is dangerous to attempt

to capture warships. Of course, if they ignore the request of cessation and are going to stay in the territorial waters, it might be necessary to exercise the right of protection and exert enforcement power to remove them. In the case of private sector research vessels, to the contrary, if their activities violate the laws and regulations of the coastal State and are regarded as a non-innocent passage resulting in the loss of the right of passage, the coastal State may exercise the jurisdiction for law enforcement to capture or arrest them, take them to a port, and punish those aboard the vessel. In so doing, the coastal State is also likely to have the right to confiscate their research data.

Japan, however, currently does not have laws prohibiting scientific research within its territorial waters because its Constitution guarantees academic freedom. There is also the issue whether it is possible to prohibit scientific research only for foreign ships. If they are carrying out research roaming about within Japanese territorial waters, Japan may arrest and punish them for violation of The Law on Navigation of Foreign Ships in the Territorial Waters and Internal Waters. On the other hand, when they are conducting *research or survey activities* without wandering about or any other behavior prohibited by the law, it would merely result in loss of innocence and the right of passage. All that Japan could do in such cases, therefore, would be to request the vessel to cease its activities and expel it from the territorial waters after confirmation of their nationality and examination of relevant documents through boarding and inspection. While countermeasures should be slightly different for military vessels and private sector research vessels as shown above, *research or survey activities* by vessels are prohibited within the territorial waters, in either case.

The purpose of the provision concerning innocent passage within the territorial waters in Article 19 of UNCLOS is to prohibit passage prejudicial to *the peace, good order or security of the coastal State*, and research activities are also obviously regarded as not innocent, or, prejudicial to the peace, good order, or security of the coastal States. Because Article 19 paragraph 2 is understood as a "deemed" provision, it is unnecessary in practice to prove the conduct enumerated therein are prejudicial to the peace, good order, or security of the coastal State. Thus, the party who conducted the research activities may not raise objection showing evidence to the contrary. This means that such activities are immediately and directly considered as one prejudicial to the peace, good order, or security, even when there are no concrete and specific facts that may cause danger to the coastal States. Here, let us imagine an example of a foreign fishing boat operating within territorial waters. If the foreign boat came into the territorial waters and sailed there dropping a net, there seems nothing is involved that apparently causes prejudice to the peace, good order, or security of the coastal State. UNCLOS Article 19 paragraph 2, however, considers it as not innocent activity. Because coastal States in general traditionally prohibit the operations of foreign vessels within their territorial waters (in accordance with the Act on Regulation of Fishing Operation by Foreign Nationals, in the case of Japan), a foreign fishing boat carrying out activities that are deemed as a matter of necessity to be not innocent loses the right of innocent passage, and the authorities of the coastal State may accordingly take enforcement measures against it. The fishing vessel cannot escape punishment even if the dropped net caught no fish in fact or caused no damage to the fishing resource of the territorial sea.

Research and survey activities also generally have the aspect of being "deemed" in the similar way. As for surveys, as mentioned before, foreign states secretly collecting information on the geography and the seabed near the coast lines would practically incur danger to the peace, good order, or security of the

coastal State, which are interests protected by law. In other words, it is disadvantageous to the coastal State that foreign warships prepare for being ready to approach the coast lines at any time in an emergency. In this sense, it might be possible to argue that foreign warships carrying out surveys without permission may involve certain factors similar to immediate or specific danger to the coastal state, in contrast to general research vessels. In this respect, *research* and *surveys* are significantly different from each other, whereas they share the same "deemed" characteristics.

It has been revealed that, in the early nineteenth century in the Edo period, the German physician and naturalist Siebold had completed surveys of sea routes in the Seto Inland Sea of Japan on the way from Nagasaki to Edo (now Tokyo) before he was deported from Japan for the so-called Siebold Incident. I suppose that he conducted these surveys for preparing foreign vessels to pass through that region in case of emergency in Japan at that time. Siebold had carried out hydrographic surveys before the Siebold Incident. While the then government could never admit it, the incident in which Siebold attempted to take maps of Japan overseas might represent advanced strategic awareness of the Western powers. Given that international law originated in the Western world, he should have been clearly aware of the norm that seabed surveys or hydrographic surveys in other countries' territorial waters without permission should not be allowed.

2.2 The High Seas, the EEZ, and Continental Shelf

Regarding the high seas, UNCLOS recognizes the freedom of marine scientific research (Article 87). This article, however, provides that matters concerning the continental shelf and the EEZ are subject to Part XIII of the same convention. So, we will examine the structure of the provisions in Part XIII regarding the continental shelf and the EEZ to determine how to sort out issues concerning marine scientific research and military surveys in the EEZ. In the continental shelf and the EEZ, the sovereign rights for exploration and exploitation of natural resources are granted to the coastal States. They also have jurisdiction regarding marine scientific and other research activities. As for the exploration of resources mentioned above, because the content of the sovereign rights of the coastal States for the EEZ is exploration and exploitation of those natural resources, foreign vessels conducting such activities without permission would be regarded a direct infringement of the sovereign rights of the coastal States. Accordingly, these issues eventually amount to matters concerning the limitation of law enforcement activities against the violation of the domestic laws of coastal States relevant to the EEZ and continental shelf, instead of issues of marine scientific research set out in UNCLOS Part XIII. On the other hand, the problem is how to treat marine scientific research. UNCLOS recognizes the jurisdiction of coastal States over marine scientific research in the EEZ (Article 56). The provision in this article differentiates *sovereign rights* and *jurisdiction*, and lists marine scientific research (MSR) in addition to the establishment and use of artificial islands and marine structures as subject to the coastal States hold jurisdiction. On this basis, the provisions in Part XIII play a role in reconciling the jurisdiction of coastal States over the newly introduced EEZ with marine scientific research in waters within the EEZ that were considered as part of the high seas in the past.

2.3 The Consent Regime in UNCLOS Part XIII

UNCLOS provides that marine scientific research in the EEZ requires consent from the coastal State (Article 246, paragraph 3). This framework is called the consent regime. Whereas activities in territorial waters and resource exploration require authorization from the coastal States, the EEZ scientific research regime involves consent. In addition, this provision stipulates that the coastal States be normally obliged to grant their consent. Moreover, it also specifies that the researching State needs to apply for their marine scientific research project at least six months prior; the coastal State has to answer within four months; and the consent may be deemed to have been granted after four months, where such response has not been returned. In short, this provision assumes that consent is generally always granted. So the problem here is what the provision of consent or "deemed" consent requires, and in what sense. To put it in a conclusive fashion, such consent will need to be treated differently from the sovereign rights for resources as individual interests originated from the status of a coastal State, given that marine scientific research aims at ensuring the benefit common to all mankind. In support of this understanding, the provision also prohibits exercising the discretion to withhold consent regarding the extended continental shelf where exploitation will not occur within a reasonable period of time (Article 246, paragraph 8). The extended continental shelf—which is defined as areas beyond the continental shelf for which the coastal State is granted exclusive authority if special geographic requirements are met—is originally the deep seabed—common heritage of mankind (CHM). Therefore, the purpose of these provisions would be to stipulate that, while coastal States may enclose their extended continental shelf, research for exploitation is considered as research for the benefit common to all mankind if any exploration or exploitation is not undertaken there. And if it is not contrary to the sovereign rights of the coastal States, they are prohibited from exercising their discretion to withhold consent to resource exploration.

In other words, even coastal States of the EEZ or continental shelf have to always facilitate marine scientific research as a benefit common to all mankind, and do not have the right to impede acquisition of knowledge on the ocean for mankind. If, however, it could be prejudicial to the sovereign rights of the coastal States, they are granted the discretion to withhold their consent. In this sense, such consent can be considered as merely the right granted to the coastal States to voice their claims, rather than a veto of the coastal States. Moreover, the provisions in the convention also specify conditions for withholding consent in an extremely objective fashion. Comprehensive examination of the above would result in the conclusion that the jurisdiction of coastal States over marine scientific research is only a guarantee of the right to somehow reduce or suppress potential effects on their sovereign rights, if any, though they cannot prevent such effects entirely. Therefore, UNCLOS probably stipulates that these provisions be implemented based on a balance amongst the significance of effects on the sovereign rights of coastal States, the needs of the coastal States to prevent such effects, and the benefit common to all mankind.

As supporting evidence, there is a provision that coastal States may set conditions for marine scientific research (Article 249). Major conditions include, for example, one that personnel from the coastal State must be on board the marine scientific research vessels, i.e., the coastal State may impose conditions that they grant their consent to conducting marine scientific research if people they designate are allowed to be on board the research vessels. The content of the research may also be restricted by various conditions set by the coastal States. This special admission of people on board vessels means, for one thing, the

enhancement of coastal States' capability to conduct scientific research, namely capability building. For another, however, it might also imply that marine scientific research should be monitored to determine whether or not it is conducted in accordance with the plan submitted in advance to see if it is prejudicial to the sovereign rights. As mentioned earlier, those conditions include the authority of coastal States to deny the publication and dissemination of information (Article 249, paragraph 2). The reason that these provisions are set out is, in short, that the disclosure of information on existence or potential existence of various resources derived from research in coastal States' EEZ would, from the coastal States' point of view, directly lead to evaluation of coastal States' national capability, which would be equivalent to the disclosure of the existence of natural resources worth exploration and exploitation, especially in terms of sovereign rights. This could be a reason why coastal States may request to avoid the dissemination of such information. In this sense, this would be one means of reconciliation with the sovereign rights of coastal States. This issue of sovereign rights may lead to the situation that the results of scientific research might not be available for publication, as mentioned above. Imagine that scientists could not publish the results of the purely scientific research that they conducted. This would cause a problem in that such scientific research would be similar to military surveys in this respect. Thus, differentiation between these categories of research would become more difficult, even retrospectively. Of course, Part XIII is never applied to military surveys even if they are virtually scientific research, because the researching State should never accept the conditions set by the coastal State—that personnel from the coastal State board the military vessels.

2.4 The EEZ and Military Surveys

Following this logic, the next problem is whether or not military survey projects need to be reconciled with sovereign rights or jurisdiction. As mentioned above, scientific research may need to be reconciled with sovereign rights to avoid the prejudice of coastal States' rights through the regime established for marine scientific research for such purposes. As for military survey activities, on the other hand, if it is explicit from the outset that research data will not be published, the surveys are not contrary to the coastal State's sovereign rights or jurisdiction for the EEZ. In the case of the 200-nautical-mile territorial waters advocated by some States, it might result in conflict with the territorial sovereignty of the coastal State. In such a case, however, surveys in waters extending 200 nautical miles would seldom cause problems for the security of the coastal State, contrary to the case of narrower territorial waters. If this is the case, the problem is whether or not the coastal State needs to hold the right to challenge military surveys by other States in the EEZ extending 200 nautical miles away from the coastline.

The position of China during the *Impeccable* incident seemed to be that UNCLOS Part XIII is generally applied to military surveys within the EEZ and the jurisdiction of coastal States is extended to them. In practice, however, various U.S. vessels had carried out research activities within the Chinese EEZ before the incident, and while there may have been obstructions or protests against these vessels, such opposition was minor and inconsequential. So, why did such an extremely delicate crisis potentially resulting in a military conflict occur during this particular incident? It is probably because the waters where *Impeccable* was conducting the survey were within the EEZ near a newly built Chinese submarine base—a fact that significantly affected China's behavior. Though it is naturally possible that the Chinese

navy will adopt the same strategy everywhere in the future, the important factor at least at the time of this incident might have been that those waters were within the EEZ about 120 kilometers off Hainan Island. While China claims their general position that military surveys within the EEZ require consent, they practically seem to be taking measures for discouraging or counteracting such activities in a wide variety of ways on a case-by-case basis. This attitude would not be based on the sovereign rights of the coastal State, but rather on the consideration of the immediate relevance to the security of the coastal State, which would never be derived from the Law of the Sea.

China's position in a strict sense would indicate that military surveys undertaken by Chinese research vessels within other States' EEZ are also subject to Part XIII; that is, they may not conduct surveys without consent in such waters. From the Japanese point of view, Japan may regard the issue of the anomalous activities by Chinese vessels around Okinotori-shima Island simply as a procedural one where they failed to obtain the consent from Japan, because Japan may consider these activities as marine scientific research instead of as resource exploration. China, on the other hand, would infer from their own standpoint that these activities are actually military surveys and cannot be conducted within other countries' EEZ without permission. Accordingly, from the viewpoint of the parties who claim that the EEZ always exists there, the research activities arbitrarily carried out by China within the EEZ around Okinotori-shima Island would lack the permission that China is required to obtain from the coastal State for their military surveys. If so, from the Chinese point of view, even if the research by China had been a military survey and conducted without applying for permission, Japan seemed to leave them as they were. This might cause China to consider that Japan admitted the claim that there is no EEZ around Okinotori-shima Island, supporting their contention that it is not an island but merely a rock. Since military surveys around Okinotori-shima Island do not immediately affect the security of Japan, it would be sufficient for the time being for Japan to make stern protests against the Chinese government as long as there is the possibility that such activities are marine scientific research or resource exploration. If, however, China's position clearly turns out to be that military surveys within the EEZ also generally require consent from the coastal State, Japan might need make protests against surveys conducted by China without permission, even if they are military surveys, in contrast to the official position of Japan. In cases where Chinese fishing boats come and operate without prior permission within the EEZ around Okinotori-shima Island, Japan should necessarily take law enforcement measures and arrest the violators. If it is marine scientific research, however, the issue will be the manner in which the research activity is contradictory to the sovereign rights. If the waters around Okinotori-shima Island did not have ample seabed resources, the prejudice of Japanese sovereign rights would not be significant, and Japan would not need to take any special measures except making a protest claiming that permission is required prior to the research because the area is within the Japanese EEZ. On the basis of the Chinese position about military surveys in the EEZ mentioned above, however, this situation might cause problems that such a measure would not be adequate for securing the Japanese EEZ.

In addition, various dubious problems have recently occurred in the waters around Japan, such as interference in the Japan Coast Guard's research activities by Chinese government ships in the East China Sea. The implication of these incidents will probably develop into a considerable political problem. If China chooses to conduct various activities for ensuring their national interests instead of ones in

accordance with UNCLOS, it could raise problems difficult to solve through diplomatic negotiation. With regard to Chinese fishing boats in the territorial waters conducting fishing operation in violation of the Fisheries Act or the Act on Regulation of Fishing Operation by Foreign Nationals, or when they obstruct government officials in exercising their duties, it is only proper to enforce the appropriate laws and regulations and arrest them. Inadequate and incomplete law enforcement would result in extremely unfavorable future circumstances for Japan.

3. NEW LAWS AND REGULATIONS FOR MARINE SCIENTIFIC RESEARCH

As a matter of fact, the above is all that can be considered within the framework of UNCLOS. Various new types of marine research will continue to emerge in the future. How should the international society respond? This involves a number of difficult issues, including ones about the ARGO float (a sort of device for marine scientific research) and the absorption and dumping of CO₂ into the seabed by ocean fertilization. It is difficult to clearly determine whether the activity is purely scientific research, industrial scientific research, or scientific research experiments. Such research projects usually require large funds, which may be provided by major companies with future profits in mind. This for-profit research will lead to further problems, such as what mechanisms enable these new types of marine research, to what extent they are categorized as scientific research, and what factors in them differentiate purely scientific research from research projects potentially leading to industrial activities. Scientific research is, needless to say, not sustainable unless it leads to industrial activities. In this sense, sustainability is important for enhancing human knowledge through scientific research, and for this purpose, it is essential to make efforts to industrialize technologies obtained by marine scientific research through the enhancement of human knowledge. Too much emphasis on industrial applications may, however, put some restrictions on the results of purely scientific research released to the world as public property. The greater the funds required for research projects such as exploration of sea-floor hydrothermal deposits or gene resources in seabed sediments, the more often such problems are expected to occur. This would give rise to the necessity of devising state policy measures to provide funds to these research projects and open them to global competition at their industrialization phase. This recalls a problem deeply rooted in modern and post-modern issues, i.e., to what extent purity and neutrality really hold, not only in marine scientific research, but in science and technology as a whole. In any case, I believe that novel solutions for those problems will be developed in the future.