The Tragedy of the Common Heritage of Mankind

Scott J. Shackelford

I. INTRODUCTION

Territorial sovereignty has in large part defined both international relations and international law since the 1648 Treaty of Westphalia. The primary exception to this principle is the international commons. In these areas, which include the deep international seabed, the Arctic, Antarctica, and outer space, concerns over free passage outweighed the great Western powers’ territorial ambitions and Grotius’s *mare liberum* triumphed. As a result, these regions were gradually regulated to a greater or lesser extent by the Common Heritage of Mankind (CHM) principle, in which theoretically all of humanity became the sovereign over the international commons.

Yet there remains no commonly agreed-to definition of the CHM amongst legal scholars or policymakers. Developing and developed nations disagree over the extent of international regulation required to equitably manage commons resources. These disagreements have played out in the diverse legal regimes of the Antarctic, deep seabed, Arctic, and outer space, each with its own version of the CHM principle. Although no universal definition exists, most conceptions of the CHM share five primary points. First, there can be no private or public appropriation of the commons. Second, representatives from all nations must manage resources since a commons area is considered to belong to everyone. Third, all nations must actively share in the benefits acquired from exploitation of the resources from the common heritage region. Fourth, there can be no weaponry or military installations established in commons areas. Fifth, the commons should be preserved for the benefit of future generations.

As resource competition intensifies at the extremes of human civilization, “special sovereignty areas” (SSAs) and in particular the communal property principle of the CHM are under pressure with the need for greater private economic development. With resources becoming increasingly scarce and technology advancing to meet surging demand, longstanding principles of communal property in the international commons will either be reinterpreted or rewritten outright. The only question is whether this redrafting will occur proactively with the international community laying out a multilateral legal regime to govern these areas, or retroactively, formalizing a sub-optimal status quo. A historical examination of sovereignty coupled with case studies of new territorial claims on the deep Arctic seabed and the re-conception of space law to favor private property rights will demonstrate this process. By exploring the development and interconnected nature of these branches of international law, we can understand how the regulatory frameworks and theoretical justifications for these areas are evolving and in turn impacting the commons. Existing comparative case studies on commons territories focus on the similarities and differences of commons regimes while neglecting the co-evolution and converging fate of the CHM regions, specifically that all components of the international commons are either now being challenged or already shrinking. The international commons must thus evolve to survive. This fact necessitates a review analyzing how the CHM principle has developed both theoretically and in practice. My analysis will show how CHM development has informed the optimal regime going forward to meet the demands of resource scarcity while at the same time respecting the characteristics of multilateral international cooperation, peaceful use, and communal ownership that have long defined the commons.

This article develops a framework for property rights over natural resources in the international commons by first building a foundation for discussion. Part I analyzes the historical evolution of sovereignty over the commons from Westphalia to such modern notions as popular sovereignty. This analysis demonstrates that a combination of factors drove this evolution, but foremost among them was technological progress. Part II examines property rights in international law, including how the international law of the sea has developed over time to allow greater private economic development.
Part III focuses on how proprietary rights already exist in the commons, and illustrates how these rights can be employed to avoid the tragedy of the commons scenario. In the future, the CHM regime will be further modified by capital exporting nations with advanced extractive industries, as has already occurred in the United Nations Convention on the Law of the Sea (UNCLOS), to allow for private exploitation demonstrating the extent to which technological progress impacts sovereignty over the commons. In conclusion, I argue that a modified leasehold system somewhat reminiscent of the Homestead Act could maintain the pillars of the CHM principle while allowing for limited property rights and sustainable economic development in the commons.

II. A HISTORICAL ANALYSIS OF SOVEREIGNTY IN THE INTERNATIONAL SYSTEM

The international commons is unique, isolated, and vast. A historical and interdisciplinary analysis of sovereignty highlighting the paramount role of technological progress in forming legal regimes governing commons areas is necessary to explain the evolution of the commons. An understanding of this historical evolution of sovereignty over the commons may subsequently be used as a guide to manage the international commons in the future. Throughout this analysis a theme emerges: previous competing political and legal theories fail to adequately explain the transformation of sovereignty over the international commons. The only notion that has both explanatory and predictive power is that technological progress catalyzes changing political realities and thereby governance regimes over the commons.

Since Aristotelian antiquity, the term “sovereignty” has been used in many ways, depending on the perspective and objectives of the user. First codified with the 1648 Treaty of Westphalia, sovereignty became vested in the absolute monarch whose authority rested on divine mandate and history, but not the will of the people. Taken together, the 128 clauses of Westphalia gave birth to the modern notion of territoriality. Over centuries, sovereignty transitioned from an absolute right of monarchs to the supreme authority of states, eventually becoming established as “Westphalian sovereignty.” The sole exception to the system of Westphalian sovereignty has been the international commons, in which all of humanity is the sovereign under the CHM principle. This system is now unraveling as nation-states reinterpret treaty systems to garner greater property rights for private entities under their jurisdiction. In this way, sovereignty over the commons has tracked sovereignty over continental territories, transitioning from a communal to a national system.

In summary, sovereign states first laid claim to the international commons, including the deep seabed and Antarctica. The majority of the international community reached a consensus that these areas should, in fact, be governed under the CHM principle. Now today, CHM regimes are being challenged by private sector representatives, a subset of developed nations and emerging markets, demonstrating that territorial sovereignty is still quite strong in the international system despite its myriad practical challenges. This cycle is at odds with the goal of CHM, which seeks to preserve and equitably distribute resources for the benefit of mankind and posterity. An alternate perspective, however, is that privatization is a strategy to avoid a tragedy of the commons. To understand how this process is unfolding, this article will briefly review the concept of the common heritage of mankind in international relations to serve as a framework for discussion.

A. The Tragedy of the Common Heritage of Mankind

The CHM principle was the first codification of a property rights regime that transcended national sovereignty. Instead, the CHM dealt directly with humanity, including its rights and development as a whole. The 1967 Outer Space Treaty (OST), passed shortly after the Cuban Missile Crisis, first enumerated this principle. Resulting from a brief alignment of political interests, this accord curtailed national sovereignty in the name of international peace. The OST ensured that the scientific discoveries of the space age belonged to all of humanity. This, and not regulating private enterprise or ensuring the expansion of territorial sovereignty, was the crux of the OST. The saga of the OST is an example of the role that technological progress has played in delineating both the purpose and extent of the international commons. This force has gradually redefined the law of natural resources in the commons, and the role that sovereignty plays in its continuing evolution.
1. The role of res communis and res nullis in regulating the commons.

The classical bases of territorial claims to the commons include res communis, res nullis, and the Common Heritage of Mankind. The latter theory originated through the notion of res communis, and is also referred to as res communis humanitatus. It reflects the view that all human beings are members of the human race, regardless of whether they live in the developed or developing world, and that things (res) cannot be appropriated and may be used by everybody. Use of a resource is allowed only as long as it does not impede someone else’s use. In economic terms, rival or mutually exclusive competitive consumption is forbidden.

Res nullis accepts the same tenets as res communis but entails an opposite outcome. It holds that the global commons belongs to no one until it is appropriated by someone. The original state of the world is thus synonymous with “unclaimed territory,” allowing states to possess and exercise control over the commons area. One example of a res nullis regime is the opening of the American West through the Homestead Act. Similarly, consumable resources of the sea were initially thought to be unlimited; they were res nullius. When it became clear that this view was incorrect, the seabed became res communis under the Common Heritage of Mankind. The CHM principle is a product of a political desire for more equitable resource distribution. This includes assisting nations with inadequate resource endowments to compete effectively. In international law, res nullis became outdated when it was determined that there was no longer any res nullis—all available land had been claimed.

The res communis principle originated with Roman property rights and holds that the commons does not belong to any country. All states, their citizens, and international legal entities are free to explore, use, and exploit the commons and its resources. This principle is identified in the law of the sea as the “freedom of the seas,” which allows for the general exploitation of resources that are available in such abundance or are so remote that no significant conflicts among current or future exploiters are expected. States have also agreed to apply the international law principle of res communis to outer space through the OST. This accord stipulates non-appropriation, provides free access to celestial bodies, and decrees that outer space is to be explored and exploited on the basis of equality and in accordance with international law.

2. The birth and troubled evolution of the common heritage of mankind.

The CHM principle has been a source of controversy and scholarly debate since its inception. There are two primary difficulties with the principle. First, there is a theoretical contradiction due to competing legal philosophies regarding the importance of communal versus private control of resources in the international system. Second, the CHM’s inherent vagueness threatens its practical application. These issues have led to disagreements, especially among developed and developing nations. Two primary theories attempt to guide interpretation of the CHM and redress these disputes.

The first theory holds that the CHM is an extension of res communis, since it provides for communal and not exclusive propriety use. Under this understanding the CHM seeks to advance the longterm prosperity of humanity by conserving the world’s resources for future generations through an international regime. Developing countries are proponents of this viewpoint. The second CHM theory considers the first conception to be in conflict with established international law. Proponents regard the first theory as a modern version of res communis applied to another phenomenon, namely the right to use a resource. Such a res communis cannot be owned but may be used on an equal basis. Comparing the philosophies of res communis, res nullis, and the CHM prompts two distinct lines of logic. One allows for the complete freedom of exploration, meaning that technologically advanced countries would benefit most from common resources. The other extreme conceives of exploration as a communal enterprise. Although this would fulfill the spirit of the CHM principle, it would not generate the amount of commercial activity necessary for substantial economic development due to an absence of property rights. Private property rights are critical to development, and the denial of these rights in the international commons will continue to be a major impediment to development until the CHM principle is reinterpreted.

Although no universally agreed upon definition of the CHM principle has been reached by legal scholars or policymakers, a working definition would likely comprise five elements. First, there can be no private or public appropriation; no one legally owns common heritage spaces. Second, representatives from all nations must manage resources since a commons area is considered to belong to everyone. Therefore, governments are relegated to the role of representing their people. As popular
management is practically unfeasible, a special agency to coordinate shared management must administer commons spaces in the name of all mankind. Third, all nations must actively share with each other the benefits acquired from exploitation of the resources from the commons heritage region. Private entities seeking profits would have to perform a service that benefited all of mankind. Equitable distribution is intrinsic to the principle, but the application is ambiguous, necessitating a balance between economic benefit-sharing and environmental protection. Fourth, there can be no weaponry or military installations established in commons areas. Armed conflict is unlawful in the commons since every nation has a stake in maintaining the peace. Fifth, the commons should be preserved for the benefit of future generations, and to avoid a “tragedy of the commons” scenario.

The concept of a tragedy of the commons was first proposed in 1833 by William Forster Lloyd, a fellow of the Royal Society, and was later popularized by Garrett Hardin. The theory suggests that unrestricted access to a resource ultimately dooms the resource to over-exploitation. Hardin concluded that there was no foreseeable technical solution to increasing both human populations and standards of living on a finite planet, stating, “Freedom is the recognition of necessity.” He suggested that “freedom,” (i.e., the freedom to do as one pleases), is ultimately responsible for the tragedy of the commons. But overexploitation is not the only tragedy. Continued economic growth and resultant poverty alleviation requires new resources that may increasingly be found in the international commons. By recognizing resources as commons, and by agreeing that they require management, Hardin believes that we can preserve and nurture other more precious freedoms. Thus finding a solution to resource competition requires recognizing the necessity of preservation and responsible management through international cooperation to avoid both over- and under-exploitation.

The existence of the commons limits states’ ability to exercise national sovereignty. As the commons belongs to all of mankind, only mankind may decide when and in what manner to exploit common resources. Difficulties in administration arise because nations vary greatly in their resource endowments and comparative advantages. Arvid Pardo, Maltese Delegate to the United Nations and the “Father of the Law of the Sea Conference” argued that the manner in which the common heritage principle will be used depends on the necessity of taking into account the wants, needs, and interests of developed and developing states. Developed countries interpret the CHM principle narrowly as allowing the common use of designated areas. Developing nations interpret the CHM principle broadly, seeking to direct participation in the international management of resource extraction. This is not an argument for environmental protection, only representative exploitation. A viable compromise would provide an incentive for investment for the exploitation of resources in common regions along with some form of limited property rights in exchange for equitable economic benefit-sharing, which will most likely not take the form of technology transfer that was so unsuccessful in UNCLOS.

Nations will assert claims over the commons as technology makes such claims economically viable. This is another example of the enduring status of the Westphalian system. Many Western nations, even established European powers, prefer national ownership over supranational management. This will be seen in this article’s analysis of the interpretation of property rights in the Arctic and in outer space. In order to reach a universal application of the common heritage principle that respects both the interests of developing nations and the economic practicalities of resource use, realistic solutions must address the issues particular to each commons area. This is necessary to avoid the tragedy of the over- or under-exploitation of resources in international waters, at the ends of the Earth, or in outer space.

III. THE LAW OF THE HIGH SEAS, ANTARCTICA, AND OUTER SPACE

The law of the sea and the law of outer space are branches of international law regulating activities in areas that fall either partially or totally outside national sovereignty. The law that governs these vast bodies includes state practice and opinio juris custom, treaties, general principles and scholarly writing. Legal precedent set by the North Sea Continental Shelf Cases requires “widespread and representative participation provided it includ[e] that of [the] States whose interests [are] specially affected” to create customary law. The framework for the governance of the international commons though is not custom; it is laid out in treaties including the 1967 OST, the 1982 UNCLOS, and to a lesser extent the 1969 Antarctica Treaty System (ATS). These regimes were created during the Cold War at a time before technological progress fully opened up these areas to economic activity. The great powers were thus content, as they had been when the law of the sea was first developing, to permit international management of these commons territories. As technology has progressed, though,
so too has the extent of sovereign claims over the new international commons. However, in some cases, such as that of Antarctica, these claims have been tempered by realistic multilateral cooperation as predicted by John Hertz’s notion of ‘neoterritoriality,’ whereby sovereign states recognize their common interests through extensive cooperation while also mutually respecting one another’s independence.

Outer space, the deep seabed, the Arctic, and Antarctica are similar in that they are in remote and relatively unexplored areas. Resources have only recently been identified and are regarded as common property under the common heritage or property of mankind. Recent developments in these branches of international law also show similarities. The revised deep seabed regime that emerged after the 1994 New York Agreement, which amended UNCLOS to allow for greater private sector activity and limited property rights, is now commonly accepted and serves as a fruitful analog for analyzing disputes surrounding property rights in outer space and the Arctic. In all of these regimes, capital-exporting nations are increasingly seeking license for greater private economic activity.

The special legal nature of outer space, the deep seabed, the Arctic, and Antarctica creates complex intersections of law, politics, economics, and technology. Resource exploitation has been especially controversial. Given the inhospitable or even nonexistent terrain, industries that wish to utilize these remote but resource-rich areas are fantastically capital intensive. Only a small subset of developed countries are home to firms with the necessary resources.

The international community has long sought international regimes to regulate resource exploitation for the benefit of all nations. The goal has been to offset disparities between countries with superior technological capacity claiming a ‘right of access’ to resources over developing countries. These resources are located in the global commons, necessitating global solutions through transnational organizations. This is not a universally shared viewpoint. Differing theoretical camps are now active on the international stage to advance interpretations in forming international law. It is first necessary to formulate a sufficient background for a well-informed discussion. The branch of international law with the longest, most well-developed history is the law of the sea. Briefly reviewing its history will inform an analysis of the evolving law of property rights in outer space, the deep seabed under the Arctic, and Antarctica. In each case, only a temporal, historical understanding of sovereignty highlighting the role of technology may explain how the commons has evolved, and what this means for pursuing future economic activity in the international commons.

A. Developing the Law of the Sea

Prior to the end of the fifteenth century, many nations made sovereign claims over the high seas. The Romans claimed the Mediterranean as *mare nostrum* (our sea). In the tenth century England claimed the North Sea and the English Channel as its exclusive “Britannic Ocean.” These claims gave birth to serious philosophical work on the law of the sea, often cited as beginning with Hugo Grotius’s 1609 *Mare Liberum* (The Freedom of the Seas). Grotius set forth reasons why the high seas must be open for trade and exploration. All property, he wrote, is grounded upon occupation. “Whatever cannot be seized or enclosed is not capable of being a subject of property . . . meaning that the vagrant waters of the ocean are necessarily free.” In answer, and to uphold the English claim on exclusive use of the North Sea, John Selden wrote *Mare Clausum* (Closed Seas) in 1618. Over time, Selden’s closed sea arguments lost favor and the world accepted Grotius’ open seas concept. As a result, the freedom of the seas emerged as the fundamental principle governing oceanic areas. Through the nineteenth and early twentieth centuries, the high seas were laissez-faire domains to be used by all nations and protected by the naval superiority of the British Navy: no state could subject the high seas to its sovereignty.

The international community’s contentment with this status quo faded following World War II with the discovery of valuable resources on the deep seabed, coinciding with the invention of the submarine, offshore drilling, and the expansion of the exclusive economic zone (EEZ). As nations took interest in what lay below the seas, they sought to modify the traditional laissez-faire regime. Technological progress simultaneously caused a change in common perceptions of the high seas. Once mysterious, inhospitable and seemingly infinite regions, they were now vast but finite zones of potential commercial activity in which limited occupation became feasible. The process to allow for greater seabed territorial claims and development began in 1945 when President Truman issued a proclamation stating that the natural resources of the seabed and subsoil of the United States’ continental shelf were exclusively American property. The practice was followed by nations around
the world, giving birth to the customary international law concept of the continental shelf. This concept has since been codified by four Geneva Conventions, beginning with UNCLOS I in 1958. This practice demonstrated the power of Grotius’ ‘freedom of the seas’ concept as applied to accessible natural resources—nations now could “occupy” portions of the seabed that had hitherto been unreachable, challenging the fundamental premise upon which Grotius built his freedom of the seas argument. Differing layers of national jurisdiction extending to territorial waters and the continental shelf were created. This left the high sea and the deep seabed under it as the sole remaining commons area, at least until occupation likewise become economically advantageous in these inhospitable regions.

1. Mining the deep seabed and the new international economic order.

Like the continental shelf before it, now the deep seabed has also garnered investors’ attention. This vast region, which composes the majority of the Earth’s surface, was not originally included in UNCLOS negotiations because neither the knowledge of mineral wealth in this area nor the technology to exploit it existed at the time. This changed with the discovery of an important deep seabed resource outside national jurisdiction: manganese nodules. These dark metal balls vary in size from .5 to 15 centimeters in diameter and are valuable because they are exceptionally rich in metals including iron, zinc, copper, silver, and gold. It is estimated that 1.5 trillion tons of manganese, nickel, copper, and cobalt in the form of nodules lie on the seabed, mainly in the Pacific Ocean. In all, depending on commodity prices there may be high demand for twenty-six elements found in the nodules in the future. With the 1960s Green Revolution and the growing realization that certain resources were finite, the deep seabed and its mineral wealth garnered newfound industry attention.

Once again, the international commons was threatened due to technological progress and increased resource competition. However, in the 1970s newly independent developing nations seeking to overcome the legacy of colonialism were becoming a powerful force in international relations. As their numbers increased so too did their demands for equitable benefit-sharing, such as technology transfer agreements.

This new wave of demands included the New International Economic Order (NIEO) that was embodied in UN General Assembly (UNGA) Resolution 3021 in 1974. The NIEO was hailed as a tool to lessen global poverty and give developing countries greater bargaining power in the international system. Among other areas, the NIEO applied to the regulation of the global commons. During UNCLOS and Moon Treaty negotiations, developing nations sought to keep industrialized countries from monopolizing the natural resources found in these two domains, and to place the deep seabed under international control. Concrete examples include Malta’s UNCLOS proposal and Argentina’s Moon Treaty proposal to make the deep seabed and outer space common heritage areas. The NIEO demonstrates that states can accomplish much when they collectively act out of self-interest. It also demonstrates the effect of power blocs in international relations on the development of international law.

During the twenty-second session of the UNGA, Arvid Pardo proposed that the deep seabed should be declared a res communis CHM area. Pardo called for an international regime to govern the deep seabed, to mine manganese nodules, and to distribute the profits from their sale to the poorest countries in the name of rapid economic development. UNGA Resolution 2749, the Declaration of Principles Governing the Seabed and Ocean Floor, was adopted by 108 states (including the United States) and stated that the deep seabed should be preserved for peaceful purposes and is the “Common Heritage of Mankind.” Developing countries saw this as placing a moratorium on development, though most legal scholars did not support this argument.

2. UNCLOS III and the unsatisfactory International Seabed Authority.

The primary purpose of UNCLOS III was to regulate the use, exploration and exploitation of all living and non-living resources of the international sea and the seabed extending in an “Area” beyond territorial waters. The debate over deep seabed mining served as an impetus for UNCLOS III, held from 1973 to 1982. Ultimately 320 Articles were adopted with a roll call of 130 votes to four, with 17 abstentions and 160 nations overall participating. However, 130 states, comprising the majority of the international community, did not ultimately ratify the agreement, but UNCLOS III did unequivocally establish the concept of the EEZ in international law. States have the benefit of exploring, exploiting,
and managing all natural resources within their EEZ. Having claimed its EEZ, a state can enforce its fishing rights within the zone and can even build artificial islands, such as offshore oil platforms. Yet, the EEZ does not prevent the passage of foreign vessels through its waters, and foreign states may lay submarine pipes and cables within the zone, but outside territorial waters. EEZs are another example of how the international commons is impacted (and typically diminished) when determined, technologically advanced states wish to capitalize on new economic opportunities. Communal sovereignty may be seen as a temporary placeholder that exists until technology enables occupation of property making it worthwhile for states to assert national sovereignty in the oldest traditions of the Westphalian system. For example, the United States did not sign or ratify UNCLOS, eschewing multilateral cooperation, but it did claim that three billion acres of coastal seabed in its EEZ are open to drilling. Japan, West Germany, the United Kingdom, and other developed states similarly followed suit, pursing national legislation and other schemes to develop the deep seabed.

The International Seabed Authority (ISA) was created by UNCLOS to regulate the deep seabed CHM area on behalf of all mankind. The ISA was tasked with the distribution of economic benefits to parties, development of resources, and encouraging the transfer of technology. Many developed countries had concerns about the ISA from its outset, especially regarding its establishment of a precedent for technology transfer in international negotiations. Nevertheless, technology transfer requirements were imposed to ensure access to the deep seabed for developing countries. Funds from applications and other fixed fees were also distributed to developing countries. Because developed nations were reluctant to give up their technological edge or share the benefits of development, the United States, the Federal Republic of Germany, the United Kingdom, and most developed nations elected not to sign the accord. This episode demonstrates the limits of internationally acceptable equitable benefit sharing. In future commons negotiations, mandatory technology transfers may well not be on the table.

The deep seabed mining provisions of UNCLOS ultimately proved unsatisfactory to the industrialized world. In 1993, with the agreement slated to enter into force in twelve months, preparations were laid by the UNCLOS participants for the 1994 New York Agreement. This amendment changed the nature of the ISA. Mandatory technology transfer was abolished. The 1994 Agreement changed the CHM into a market-based concept fully compatible with private economic activity.

Despite the New York Agreement, the United States has still not yet ratified UNCLOS, though it has had the support of the Reagan, Clinton, and Bush administrations. Until 2003, Senators outside the Foreign Relations Committee had not even reviewed UNCLOS due to opposition by political conservatives led by Jim Inhofe, R-Oklahoma. By designating oceanic resources as a CHM, the opposition feared that the legislature risked both placing limitations on national sovereignty in the commons that would potentially lead to the under-exploitation of available resources. Instead, this group advocates privatizing the seabed, thereby creating incentives for preservation by giving owners an economic interest in protecting the long-term value of their property. However, with the rush to claim large tracts of the Arctic for natural gas and oil exploitation as oil prices soared in summer 2008, political realities have changed as offshore drilling has gained increased popularity as a partial stopgap to bring down energy prices. For a period the United States seemed set to ratify UNCLOS sometime in 2008, but due to delays ratification will not occur until 2009 at the earliest.

Establishing property rights has been commonly seen in the Western world as the solution to commons management; once occupation of a territory is possible, then property rights become necessary to catalyze development. The U.S. Congress has been receptive to such arguments, and has passed the Deep Seabed Mining Act stating that three conditions had to be met before United States acquiescence to UNCLOS: (1) non-discriminatory access to mineral resources, (2) a legal definition to CHM, and (3) environmental protection. But now, with changing technological and political realities, these constraints appear likely to fall away. Despite American hesitancy, and thanks to common acceptance of the 1994 New York Agreement, UNCLOS has now gained newfound and widespread support in the international community. The legacy of the common heritage experience in UNCLOS, i.e. the failure of communal ownership to garner consensus in both developed and developing nations, has cast the governance of other regions in the international commons into doubt, including outer space and the poles. This redrafting of the law of the sea to favor limited property rights and promote economic development illustrates the powerful impact that technological progress has on international
law. The debate over this impact will be shown to have significant ramifications on the commons of the Arctic, Antarctic, and outer space.

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[Footnotes omitted]