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(p. 98) 4 The Theoretical Bases of International Watercourse Law:

An Examination of the Four Principal Theories

Introduction 98

A. Absolute Territorial Sovereignty 99

1. Introduction 99
2. The “Harmon Doctrine” 100
3. Practice of other states 103
4. The views of publicists 111
5. Conclusions 115

B. Absolute Territorial Integrity 116

1. State practice 117
2. The views of publicists 122
3. Conclusions 124

C. Limited Territorial Sovereignty 125

1. State practice 127
2. The views of publicists 136
3. Conclusions 137

D. Community of Interest 138

1. State practice 141
2. The views of publicists 147
3. Conclusions 151

Overall Conclusions 157

Introduction[1]

The present chapter examines the theoretical basis of the law of the non-navigational uses of international watercourses. This issue was of greater interest historically, when the law in this field was in its formative stages, than it is today. Nevertheless, (p. 99) it is worthy of our attention because of the light it sheds upon the applicability of the principle of territorial sovereignty to international watercourse systems. States have taken various positions on this question. Beginning with Max Huber’s seminal analysis of 1907,[2] these positions have been organized in a conceptual framework, ultimately consisting of four theoretical categories.[3] We first consider the two positions at the extreme opposite ends of the continuum of possibilities (“absolute territorial sovereignty” and “absolute territorial integrity”), then turn to a middle ground (termed, rather unfortunately, “limited territorial sovereignty”) which generally reflects the current position. Finally, we examine a theory that, while it may seem somewhat idealistic, has been endorsed by the International Court

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and is probably the one that will come to be recognized as not only the optimal, but also the necessary approach to dealing with future water problems ("community of interest").

A. Absolute Territorial Sovereignty[4]

1. Introduction

There are few, if any, absolutes in the law. This is as true of international law as of any other normative order.[5] It is therefore surprising that there should be any doctrine in that branch of international law dealing with a vital, shared natural resource that is described as being "absolute." The very existence of such a doctrine demands that it be examined closely to determine whether that description is justified and whether the doctrine does in fact reflect an *opinio juris* on the part of any of the few states that have been said to espouse it.

The theory of "absolute territorial sovereignty" is associated chiefly with the "Harmon Doctrine."[6] This doctrine draws its name from an opinion delivered in the late nineteenth century by an American Attorney-General during one stage of a dispute between the United States and Mexico over the use of Rio Grande waters. Because of the extreme nature of the doctrine and the way the dispute in which it was articulated was actually resolved, our examination of the theory of absolute territorial sovereignty will begin with a brief review of that dispute. We will next seek to determine whether other states have taken similar positions in their practice and will proceed to survey the views of publicists on the question. Several conclusions will be drawn from this analysis. First, it may have been only natural in the late 1800s, given the undeveloped (p. 100) state of the law at that time,[7] for a government lawyer to render the kind of opinion that has since gained notoriety as the "Harmon Doctrine," whether as objective advice on the state of the law or as an argument to be used in negotiations with another government. In fact, however, a position of absolute sovereignty was adopted by the country of the Harmon Doctrine's origin neither in the resolution of the Rio Grande controversy itself, nor in contemporaneous disputes, nor in subsequent cases. Second, it is questionable whether other states that are thought to have adopted such a position have in fact done so. And finally, the doctrine of absolute sovereignty has, in any event, never enjoyed wide support as the basic, governing principle in the field. It is at best an anachronism that has no place in today's interdependent, water-scarce world.

2. The "Harmon Doctrine"[8]

The dispute that gave rise to what is perhaps the most infamous legal view yet espoused publicly by a state concerning the law of international watercourses concerned the Rio Grande (Rio Bravo). The Rio Grande rises in the United States, in the San Juan Mountains of Southwestern Colorado, and flows for some 645 miles (1,038 kilometers) through Colorado and New Mexico before becoming the boundary between the United States (*in fine*, the State of Texas) and Mexico in the vicinity of El Paso, Texas, and its sister city, Ciudad Juarez in the State of Chihuahua, Mexico. The river forms the boundary between the two countries for 1,240 miles (1,996 kilometers).

Increasing diversions of Rio Grande waters by farmers in the United States during the last twenty years of the nineteenth century[9] at least contributed to the reduction of the flow of the river[10] to such an extent as to spark protests by Mexico. In fact, as early as 1878 a report transmitted to the House of Representatives by the Secretary of War warned that as water is increasingly "taken from the Rio Grande for irrigation, … there will not be enough water for all, and both sides have an equal right . …"[11] According to Mexico, these diversions sharply reduced the supply of water to Mexican communities in the vicinity of Ciudad Juarez, located across the Rio Grande from El Paso, Texas.[12] The seriousness of the situation had been recognized (p. 101) in a concurrent resolution adopted by Congress in 1890, which stated that it was a "standing menace to the harmony and prosperity of the citizens of said countries, and the amicable and orderly administration of their respective

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Governments; . …"[13] The two houses of Congress therefore resolved that the President be requested to enter into negotiations with Mexico with a view to resolving, inter alia, the Rio Grande water problems.

In 1894 the consul of Mexico at El Paso wrote the Mexican Minister (ambassador) in Washington about the economic straits of Ciudad Juarez (as well as El Paso), stating that that "[t]here remains no other recourse for the maintenance of tranquility pending the settlement of the main question … than the equitable division of the waters of the river."[14] This early reference to equity as a standard for allocating shared water resources is notable. The Mexican Minister passed the concerns expressed by the consul to the U.S. Secretary of State, W.Q. Gresham.[15]

The State Department initially referred the Mexican concerns to the Department of Agriculture, which responded that it was not certain "that the low state of the Rio Grande at Ciudad Juarez and vicinity is due to the utilization of water for irrigation along the upper course of the river to a greater extent than heretofore."[16] In his message to Congress delivered in December, 1894, President Grover Cleveland stated: "The problem of the storage and use of the waters of the Rio Grande for irrigation should be solved by appropriate concurrent action of the two interested countries."[17] Thus, the initial response of the U.S. government was factual, not legalistic, and emphasized taking joint action toward a solution.

The situation not having improved during the 1895 growing season, the Mexican Minister sent another note to the Secretary of State in October of that year carefully laying out the facts and Mexico's legal position.[18] The latter was based first on Article VII of the 1848 Treaty of Guadalupe Hidalgo,[19] which guarantees freedom of navigation on the Rio Grande, something that had become impossible due to the new irrigation works in Colorado and New Mexico. And second, the minister stated that even if the treaty did not apply to the problem,

> the principles of international law would form a sufficient basis for the rights of the Mexican inhabitants of the bank of the Rio Grande. Their claim to the use of the water of that river is incontestable, being prior to that of the inhabitants of Colorado by hundreds of years, and, according to the principles of civil law, a prior claim takes precedence in case of dispute.[20]

(p. 102) The note concluded by expressing Mexico's strong interest in negotiating with the United States an arrangement for the distribution of Rio Grande waters.

The Secretary of State referred the Mexican protest to the U.S. Attorney-General[21] for an opinion on, inter alia, whether the diversions in the United States violated Mexico's rights under principles of international law. The Attorney-General, Judson Harmon, replied in an opinion of December 12, 1895. In the portion of the opinion that has become known as the "Harmon Doctrine," the Attorney-General denied that the general rules of international law imposed any obligation on the United States to restrict its inhabitants' use of the portion of the Rio Grande within United States territory, even if that use would cause adverse effects in Mexico. Specifically, Harmon stated, in part:

> The fundamental principle of international law is the absolute sovereignty of every nation, as against all others, within its own territory. …
>
> All exceptions … to the full and complete power of a nation within its own territories must be traced up to the consent of the nation itself. They can flow from no other legitimate source.

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> …
>
> The immediate as well as the possible consequences of the right asserted by Mexico show that its recognition is entirely inconsistent with the sovereignty of the United States over its national domain. …
>
> …
>
> The case presented is a novel one. Whether the circumstances make it possible or proper to take any action from considerations of comity is a question which does not pertain to the Department [of Justice]; but that question should be decided as one of policy only, because, in my opinion, the rules, principles, and precedents of international law impose no liability or obligation upon the United States.[22]

Thus, Harmon advised the Department of State that the United States bore no responsibility for the substantial reductions in Rio Grande water available to Mexico, even assuming that they resulted from the increased diversions in Colorado and New Mexico. The opinion has generally been taken as standing for the proposition that international law allows an upstream state complete freedom of action with regard to international watercourses within its territory, irrespective of any consequence that might ensue in other countries.[23]

Whether the United States in fact believed that the "Harmon Doctrine" accurately reflected international law, and acted consistently with it, is doubtful, especially in view of the manner in which the United States actually agreed to solve the controversy over the Rio Grande with Mexico. It appears more likely that, as (p. 103) Herbert Smith has concluded, "Mr. Harmon's attitude seems to have been merely the caution of the ordinary lawyer who is determined not to concede unnecessarily a single point to the other side."[24]

Indeed, the dispute was ultimately settled in the 1906 Convention concerning the Equitable Distribution of the Waters of the Rio Grande for Irrigation Purposes.[25] In this treaty, the two countries agreed to apportion the water in a manner that was equitable and acceptable to each of them, something made possible by the construction by the United States of a storage dam in New Mexico, the 301-foot-high Elephant Butte Dam.[26] The treaty provides that Mexico will receive 60,000 acre feet of water annually from the Rio Grande and waive all claims to the river above the town of Fort Quitman, Texas, and for past damages from water shortages. This is hardly the entirely selfish, go-it-alone approach of which the Harmon Doctrine is emblematic. The cooperative attitude exemplified by the 1906 treaty has been followed in other cases, some of which are ongoing at the time of writing.[27]

3. Practice of other states

A few states, in diplomatic exchanges, have occasionally asserted absolute sovereignty over portions of successive international watercourses situated entirely within their territories.[28] As was true of the United States in respect of the situations discussed above, however, these states have generally resolved the controversies that gave rise to assertions of absolute sovereignty by entering into treaties or other arrangements (p. 104) that actually apportioned the waters in question or recognized rights in the other state or states. Several examples will suffice to illustrate the point.

The Indus Waters Treaty of 1960 between India and Pakistan,[29] concluded with the participation of the World Bank,[30] resolved a sharp dispute between the two countries that arose following the Partition of the British Indian Empire in 1947. At one point during this controversy, India, the upper riparian,

> reserved its full freedom to extend or alter the system of irrigation within India—in other words, to draw off such quantities of water as it needed, subject to such

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> agreement as could be reached with Pakistan. But it continued to supply water as in the past.[31]

At another point, India took the position that "both [countries] have full and exclusive jurisdiction over the management, control and utilisation of natural waters available in their territories."[32] Pakistan characterized the position of India as striking at "the very root of Pakistan's right to historic, legal and equitable share in the common rivers."[33] It therefore proposed that a conference be convened for the purpose of establishing "an equitable apportionment" of the waters it shared with India.[34] While the parties reserved their legal positions,[35] the Treaty actually effected (p. 105) what observers have characterized as an equitable apportionment of the waters of the Indus System.[36]

Utilization of waters flowing from India into Bangladesh (before 1971, East Pakistan) has been the subject of a number of controversies between the two countries. In 1950, the government of India, in response to reports of plans to construct a dam on the Karnafuli River in East Pakistan which would result in the flooding of areas in the Indian state of Assam, stated that "the Government of India cannot obviously permit this and trusts that the Government of Pakistan will not embark on any works likely to submerge land situated in India." Rather than asserting a position of absolute sovereignty, however, East Pakistan replied that construction of a dam which would flood land in India was not contemplated.[37]

The principal source of controversy between the two countries, however, has been the barrage constructed by India on the Ganges River at Farakka, approximately 11 miles upstream from the Bangladesh border.[38] India originally took the position that, by virtue of the fact that 90 percent of its length, 99 percent of its catchment area, and 91.5 percent of its entire irrigation potential was situated within India, the Ganges was not an international, but "overwhelmingly" an Indian river.[39] India nevertheless declared that it was "willing to discuss this matter with Pakistan to satisfy them that construction of the Farakka Barrage will not do any damage to Pakistan."[40] And in subsequent debates before the Special Political Committee of the General Assembly, India not only ceased to deny the international character of the Ganges, but stated its general position as follows, as summarized in the relevant UN document:

(p. 106)

> India's views regarding the utilization of waters of an international river were similar to those held by the majority of States. When a river crossed more than one country, each country was entitled to an equitable share of the waters of that river. … Those views did not conform to the Harmon doctrine of absolute sovereignty of a riparian State over the waters within its territory, as had been implied in the statement by the representative of Bangladesh. India, for its part, had always subscribed to the view that each riparian State was entitled to a reasonable and equitable share of the waters of an international river.[41]

One may observe here how the Harmon Doctrine has, ironically, become a potent weapon in the hands of a downstream state accusing an upstream state of acting unreasonably.

Pursuant to a joint statement adopted by consensus by both the Special Political Committee and the General Assembly,[42] the parties met for the purpose of working out a settlement and in fact reached agreement on an interim arrangement in the form of an Agreement on Sharing of the Ganges Waters of 1977.[43] The two countries concluded a new agreement in 1996 which allocates Ganges water for a period of thirty years.[44] It thus appears that India's legal position has evolved considerably since it advanced a position that was similar

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in some ways to the Harmon Doctrine in earlier phases of both the Indus and the Ganges controversies.[45]

The government of Austria has in the past also taken what might be described as a position of absolute territorial sovereignty with respect to international watercourses it shares with other states. In discussions with Bavaria over the development of international watercourses, Austria stated: “In accordance with the law of territorial sovereignty, [successive] waterways are at the entire disposal of each country throughout the whole stretch within its territory; . …”[46] But in the same statement Austria agreed, albeit “without prejudice to the above legal standpoint,” to give notice of any plans for development of successive watercourses and to consider objections concerning those plans, whether made on “legal, technical or economic grounds.”[47] Furthermore, on May 25, 1954, Austria entered into an agreement with Yugoslavia concerning water problems on the Drava River “especially with a view to (p. 107) preventing any harmful effects resulting from the mode of operation of the Austrian power stations” upstream on the Drava from Yugoslavia.[48] And Austria paid compensation to Yugoslavia for damage caused by actions in Austria that interfered with the flow of the Drava.[49] By 1958, Count Edmund Hartig, a well-known authority in the field[50] and the head of the Austrian government’s department dealing with international watercourses, could state that Austria, a predominantly upper-riparian state, did not follow the Harmon Doctrine, which he considered to be “dead.”[51] Instead, Hartig, who has been characterized as being “usually in the position of defending upper riparian interests,”[52] advanced the view that each river basin forms a single coherent unit, so that co-riparian states are in the same position of co-owners of a single *res*. This view will be examined further below.[53]

A 1913 decision of the Supreme Administrative Court of Austria has been characterized as “the sole judicial precedent disclosed by research that may be urged in support of absolute sovereignty over the waters of an international river . …”[54] The case involved objections by Hungarian communities and industrial interests to a permit granted by Austrian water rights authorities to an Austrian consortium.[55] The permit authorized the consortium to divert substantial quantities of water from the Leitha River, which then formed the boundary between Austria and Hungary downstream of the point of diversion. A close examination of the case reveals that it does not in fact support the doctrine of absolute territorial sovereignty, for several reasons.

First, the tribunal itself declared that since it was “a national Austrian court and not an international arbitration court, [it] would not be competent to pass judgment” on the rights of the states of Austria and Hungary under customary international law.[56] Second, the tribunal stated a position that the Austrian administrative courts have since repeated in analogous cases,[57] namely that the Austrian (p. 108) administrative authorities were competent to consider only effects “within the territory of the Austrian state, and … not … usufructuary rights in foreign waterways . …”[58] But the tribunal qualified this position in the following important way:

> on the contrary, we may justly speak of competence on the part of the Austrian authorities, in so far as they are empowered to grant water rights at discretion, provided that, in the exercise of this power, … they seek to cultivate neighborly relations with third states and to secure likewise the good will of the foreign political authorities; and provided that, for reasons of international administrative policy, they bear in mind, in enacting provisions within Austrian territory, the protection of existing rights in foreign waters.[59]

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According to the tribunal, the exercise of this discretionary power "is not subject to revision by the Administrative Court . …"[60] And finally, it is striking that before the case reached the Supreme Administrative Court, "changes were made in the contents of the concession" in response to complaints against the decision, including the following: "the concessionaires were obligated—if in the improbable event that in consequence of the construction and operation of the projected power plant, the water supply should run short in any one of the Hungarian districts and localities referred to—to take adequate remedial measures to maintain a proper water supply . …"[61]

Thus, the Austrian authorities did, in fact, take the downstream Hungarian interests into account and protected them in the terms of the permit they issued. This decision is therefore not inconsistent with a recognition of one state's obligation not to use waters within its borders in such a manner as to cause harm to other states: the decision not only declares that the Austrian administrative authorities are not competent to deal with the rights of the states concerned under international law, but also actually takes into account the interests of the downstream state and provides for remedial measures in the event that harm is caused. This is in fact quite remarkable for a decision of an administrative court rendered in 1913, and shows that countries that have intensively developed their water resources and have interacted frequently with regard to them realize that ignoring the concerns of other states and their populations neither promotes harmonious interstate relations nor permits optimal utilization of those resources.

The Rio Mauri was the subject of a dispute between Chile and Bolivia in the early 1920s.[62] In 1921, Bolivia protested the granting by Chile, the upstream state, of a concession to divert 3,000 liters per second from the Mauri for irrigation works in the upper Tacna valley. Chile took the position that non-navigable watercourses did not have an international character and, since the Mauri was not navigable, it (p. 109) was not an international river. Thus, Chile maintained that the river was subject to its full and exclusive sovereignty. However, since "the amount diverted was insignificant in relation to the total volume of the stream,"[63] and was not shown to have caused significant harm to Bolivia, Chile's use would probably have qualified as a reasonable and equitable one, in any event.

In a later dispute over the Rio Lauca, rather than asserting absolute territorial sovereignty, Chile merely asserted that "the works contemplated would in no way prejudice the interests of Bolivia as lower riparian of said river."[64] Chile further offered to mitigate any damage through adjustments or to pay compensation, and proposed submission of the dispute to the International Court of Justice.[65] Any doubt about whether Chile continues to adhere to the doctrine of absolute territorial sovereignty—if in fact it ever did—seems to have been resolved in Chile's agreement with Argentina concerning Hydrologic Basins of 1971.[66] In that agreement the two states, desirous of "expressly recognizing general rules of international law and of supplementing them with specific regulations governing the utilization of the waters common to the two countries," provided, inter alia, that: "The waters of rivers and lakes shall always be utilized in a fair and reasonable manner."[67]

Finally, it has been said that Ethiopia "still stands by the Harmon Doctrine, as is shown by a series of terse statements issued by her Ministry of Foreign Affairs in 1978 and in which Ethiopia once again asserts and reserves for herself 'all the rights to exploit her natural resources'."[68] However, these statements must be evaluated with caution. They were made in the heat of exchanges between the governments of Egypt and Ethiopia, against a historical background of Egypt's and Sudan's purporting to allocate all Nile waters between them in the 1959 Agreement between the two countries for the Full Utilization of Nile Waters[69] without the participation of any of the other eight basin states[70]—including Ethiopia, which contributes some five-sevenths of Nile waters reaching Egypt.[71] The context of the Ethiopian statements in question was that, according to Egyptian newspaper accounts, "Egypt and the Sudan were studying with great interest feasibility studies being conducted by the USSR around Lake Tana, where about 85 per cent of the Nile water

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originates." The news report continues, "Egypt will not allow the exploitation of the Nile (p. 110) waters for political goals, and … it will not tolerate any pressure [to be brought] to bear on it or to foment disputes between itself and its neighbours."[72]

The Ethiopian statement quoted above was made in response to these pronouncements by Egypt. Ethiopia went on to state its view that despite its reliance upon waters of Ethiopian origin, Egypt "had never shown friendship nor sought cooperation from Ethiopia but [had] shown hostility to independent Ethiopia in every aspect of international existence."[73] Ethiopia also recalled that Egypt had itself constructed the Aswan Dam, which was heavily dependent upon Blue Nile waters, "without even consulting Ethiopia."[74] The Ethiopian statements are thus perhaps understandable in the larger context of the relations between the two states. They may have been in part designed to elicit Egyptian cooperation on fluvial and other matters. The diplomatic atmosphere was doubly charged by the fact that the exchanges occurred during the Cold War era.

Even taken at face value, however, it is important to recognize that the Ethiopian statement quoted above does not necessarily constitute a denial of obligations toward downstream states with regard to the use of an international watercourse. That is, it is universally recognized that a state is fully entitled to exploit its natural resources. Ethiopia only said that she reserves for herself "all the rights to exploit her natural resources." Ethiopia clearly has rights to do just that. The statement does not deny that Ethiopia also has obligations nor that Egypt does not have rights. To acknowledge a right to exploit natural resources within a state is in no way to admit that in exploiting such resources the state may cause harm to other states sharing them or ignore their rights to an equitable and reasonable sharing of the resource.[75] Therefore, Ethiopia cannot be placed in the Harmon Doctrine camp on the basis of this or similar statements.

This brief case study demonstrates the danger of drawing sweeping conclusions from isolated statements without taking into account the context in which they were made, and without examining closely their legal significance. As indicated in Chapter 7,[76] Ethiopia and Egypt, along with the eight other Nile basin countries, have engaged in the process of forming a cooperative framework, a process which resulted in the conclusion of the Nile River Basin Cooperative Framework Agreement (CFA).[77]

(p. 111) 4. The views of publicists

A historical survey of the views of commentators shows that while there was some support for the theory of absolute territorial sovereignty in the nineteenth century and even in the earlier decades of the twentieth century, it declined sharply as the significance of non-navigational uses increased. No support for the Harmon Doctrine of absolute territorial sovereignty can be found in contemporary literature. A few illustrations will illustrate this evolution.

Berber refers to nine authors he characterizes as supporting the principle of absolute territorial sovereignty.[78] These include, with the date of the relevant publication, Klüber (1821),[79] Heffter (1888),[80] Bousek (1913),[81] Mackay (1928),[82] Schade (1934),[83] Simsarian (1939),[84] Hyde (1945),[85] Fenwick (1948),[86] and Briggs (1952).[87] It is striking that this list contains commentators from, as far as can be determined, only four countries: Austria, Germany, Canada, and the United States, and only two of those are in Europe, where the experience with international watercourse problems is the richest. It may not be coincidental that all four of the states represented are upstream countries, at least in relation to some of their neighbors. On the other hand, it has been observed that "[m]ost writers, from Grotius up to the end of the 19th century, had treated [the] subject [of the non-navigational uses of international watercourses] less on its merits than according to the author's own general ideological concepts of international law."[88] This tendency, which was doubtless due in no small part to the predominance in that era of navigational over non-

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navigational problems, may help to explain some authors' attraction to the notion of absolute territorial sovereignty.

But it is probably the concept of "sovereignty" itself that worked the most mischief. The doctrine as understood today includes within it the responsibility that it be exercised in a way that is not harmful to neighboring countries, something that was less appreciated earlier. Yet there were well-known early signposts. Among them are the words of the highly respected Swiss jurist, Max Huber,[89] sole arbitrator in the *Island of Palmas* case:[90]

> Territorial sovereignty … involves the exclusive right to display the activities of a State. This right has as corollary a duty: the obligation to protect within the territory the rights of other States, in particular their right to integrity and inviolability in peace and in war, together (p. 112) with the rights which each State may claim for its nationals in foreign territory. Without manifesting its territorial sovereignty in a manner corresponding to circumstances, the State cannot fulfil this duty. Territorial sovereignty cannot limit itself to its negative side, i.e. to excluding the activities of other States; for it serves to divide between nations the space upon which human activities are employed, in order to assure them at all points the minimum of protection of which international law is the guardian.[91]

The application to the use of international watercourses of the "corollary duty" that is part of sovereignty is clear: there is no such thing as "absolute" territorial sovereignty. Indeed, for reasons explained clearly by Huber, sovereignty generally cannot be said to be "absolute." This same requirement of regard by sovereign States for their neighbors and others was recognized in 1941 by the tribunal in the *Trail Smelter* arbitration;[92] in 1949 by the International Court of Justice in the *Corfu Channel* case;[93] and in the well-known Principle 21 of the 1972 Stockholm Declaration on the Human Environment.[94]

Thus, many if not most of the authors lending early support to absolute territorial sovereignty in the field of international watercourses seem to have derived their positions more from abstract logic, with state sovereignty as the basic premise, than from actual state practice. In so doing they failed to take into account anything but what Huber called sovereignty's negative side. Such abstract reasoning was heavily criticized by Smith in his highly respected 1931 work.[95]

Several additional considerations diminish the value of these writers' statements as support for the doctrine, however. First, as already noted, some of the positions were formulated before non-navigational uses had taken on much significance. This is true of the views of Klüber and Heffter; Bousek wrote after American diversions of Rio Grande waters were protested by Mexico but before significant controversies had arisen in Europe. Second, the important ECE study of 1952, *Legal Aspects of the Hydro-Electric Development of Rivers and Lakes of Common Interest*,[96] points out that (p. 113) Bousek "relied on some inaccurate data in developing his argument."[97] It is further not without significance that the paper of Bousek, a lawyer practicing in Vienna, was funded by the Austrian Water Supply and Distribution Industry Association,[98] suggesting that it was principally an advocacy piece. While Bousek stridently defends the doctrine of absolute territorial sovereignty, his point of departure is that international water law belongs more to the field of international administrative law than to public international law, and therefore includes national legal rules, upon which he relies heavily.[99] But Bousek concedes the "ancient principle" that one state may not use a successive watercourse in such a way as to injure another,[100] and concludes that a customary international law of international watercourses had not yet taken shape.[101] As for Schade and Mackay, both appear to be primarily concerned with the effect of non-navigational uses on navigation. But the fact that navigation has lost any

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priority it once enjoyed since their views were published[102] effectively eliminates the basis of their argument.

The American authors seem to have been much influenced by Attorney-General Harmon's opinion, and generally ignore the effect of U.S. treaty practice. This is especially the case with Simsarian, who reaches the conclusion that "[t]here is no limitation on the right of a state to divert … the waters of a river which crosses an international boundary line,"[103] despite contrary positions taken by Mexico and Canada (and later the United States itself, in respect of the Columbia River). Simsarian acknowledges, however, that "[r]iparian states are entitled to share equally in boundary waters,"[104] that is, contiguous watercourses. While Berber cites Hyde as an exponent of the absolute territorial sovereignty doctrine, he acknowledges Hyde's recognition that "the most recent developments in state practice seem to be on the point of turning away from this principle."[105] In fact, Hyde's position, insofar as he takes one, is not at all dogmatic. He realizes that there is an "interest of the stream as a whole" and that there is a "common concern of all in its welfare."[106] He states: "It may be that in the particular case, the equities of the upstream State resorting to diversion within its own domain are, apart from those derived from the theory of unrestricted sovereignty, as solid as the claims of a proprietor downstream . …"[107] Here Hyde cites and discusses extensively[108] the *Kansas v Colorado* litigation in the U.S. Supreme Court[109] in which that tribunal articulated the doctrine of equitable apportionment of the waters of an interstate stream. He explains: "In such case there is merely a measuring of the value of conflicting claims of opposing States according to the effect upon each of the act of diversion."[110] This balancing is (p. 114) characteristic of the equitable apportionment doctrine applied by the U.S. Supreme Court in interstate apportionment cases. Importantly, Hyde recognizes that:

> The solution of the problem growing out of the appropriation of waters of international streams is not to be found in the exercise by a particular riparian proprietor of the full measure of the privilege which it may prove difficult to deny … but rather in the disposition of interested states to agree to understandings as to regulated diversions, even though the consequence may be the ultimate relinquishment of the privilege of independent action that might once have been reasonably asserted. In a word, the exercise of a legal right by the individual state may, in respect to the matter of diversions of international waters, prove, as in kindred fields, disadvantageous even to the possessor of it.[111]

Hyde's overall approach comes under strong criticism by Andrassy, who points out that Hyde, in citing the award in the *Trail Smelter* arbitration,[112] affirms that a state is obliged to prevent any use of its territory that may cause pollution of the waters or the air of a neighboring state. Andrassy notes that if Hyde's two principles are combined, one arrives at the untenable conclusion that it would be prohibited to cause an appreciable diminution in a downstream state's fishery, but that it would be lawful to eliminate the watercourse through a diversion and in this way deprive the downstream state of all its benefits, even the most necessary ones.[113]

Both Fenwick and Briggs emphasize considerations of sovereignty, and seem to derive their positions as theoretical deductions from those considerations—a flawed approach, as has been seen. At the same time, each refers to treaty, decisional, and other state practice pointing in the opposite direction.[114] Briggs' treatment of "international fluvial law" concentrates chiefly upon navigation. As support for his absolute sovereignty position concerning non-navigational uses (specifically, diversion), Briggs relies exclusively upon Hyde.[115] The position of the latter is hardly unequivocal, as has been seen. Briggs then refers to other materials, including cases between American and German states in which

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the respective courts applied equitable principles,[116] reflecting a recognition that the absolute territorial sovereignty theory is of little help in solving concrete problems.

Thus, it appears that, when closely examined, even those authors who are generally regarded as being the principal exponents of the absolute territorial sovereignty doctrine present neither a united front nor one that is internally consistent: some of the theories are subject to significant qualifications imposed by their authors and others are open to question on their own terms. In addition, some of the authors formulated their views before non-navigational uses assumed significant importance. This may have led them to not appreciate fully the serious ecological, economic, and other harm, not to mention the human suffering, that could result from large-scale (p. 115) diversions or pollution. It also helps to make their positions understandable since, to paraphrase Holmes, the law reflects experience more than logic.[117] More importantly, it meant that their views were arrived at without the benefit of significant state practice on the question.

In any event, those authors who concluded that international law imposed no limitations on a state's freedom to dispose as it wished of the waters of an international watercourse wrote in the now-distant past. No current work has been found that supports this view. In fact, even a number of older works reject it. These and other studies, comprising the great weight of authority, will be reviewed in subsequent sections. It will suffice for present purposes to refer to one highly regarded work. The first edition of Oppenheim's classic treatise on International Law was published in 1905, only a decade after Harmon conducted the research on which his opinion was based. In a section on "Independence and Territorial and Personal Supremacy," Oppenheim states as follows:

> Just like independence, territorial supremacy does not give a boundless liberty of action. Thus, by customary International Law, … a State is, in spite of its territorial supremacy, not allowed to alter the natural conditions of its own territory to the disadvantage of the natural conditions of a territory of a neighbouring state—for instance, to stop or to divert the flow of a river which runs from its own into a neighbouring territory.[118]

It is precisely the "disadvantage of the natural conditions" of neighboring states that is largely ignored by states and commentators that support the doctrine of absolute territorial sovereignty.

5. Conclusions

The foregoing review of state practice and the views of commentators relating to the doctrine of absolute territorial sovereignty leads to the conclusion that while the theory has undoubtedly been advanced by a few states in diplomatic exchanges concerning disputes with co-riparians,[119] it has seldom, if ever, been reflected in the resolutions of actual controversies. The doctrine reached its zenith in the opinion of Attorney-General Harmon, yet as Smith observes, his "attitude seems to have been merely the caution of the ordinary lawyer who is determined not to concede unnecessarily a single point to the other side."[120] The U.S. government later judged the opinion more harshly, referring to it as an example of cases of "special pleading" in which, "according to convenience, ad hoc legal principles have been invented."[121] "[I]t is necessary," according to the United States, "to distinguish between what states (p. 116) say and what they do."[122] In the dispute with Mexico that produced the Harmon Doctrine, the United States "entered into a treaty which in fact apportioned the water."[123] The title of that treaty, 1906 Convention concerning the Equitable Distribution of the Waters of the Rio Grande for Irrigation Purposes,[124] accurately reflects the governing principle and the solution actually reached by the parties. Moreover, "[s]ince the United States Government did not act upon [Harmon's] opinion in their relations with Mexico, his statement of principle must be regarded as little more than academic."[125] This is all the more true in light of subsequent repudiations of the doctrine by

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the United States.[126] It is easy to understand why the doctrine has not figured in the solution of actual disputes since a "solution" based on such a doctrine would, in the words of Berber, be "grounded in an individualistic and anarchical conception of international law in which personal and egoistical interests are raised to the level of guiding principles and no solution is offered for the conflicting interests of the upper and lower riparians."[127] The same is true of the next theory considered. However, that doctrine reflects the opposite extreme.

B. Absolute Territorial Integrity[128]

The sharp contrast between the doctrine of absolute territorial sovereignty, just discussed, and that of absolute territorial integrity, is best illustrated in terms of successive watercourses. While the doctrine of absolute territorial sovereignty insists upon the complete freedom of action of the upstream state, that of absolute territorial integrity maintains the opposite: that the upstream state may do nothing that might affect the natural flow of the water into the downstream state. Such a theory could have devastating effects upon upstream states that develop their water resources later than their downstream neighbors—something that is common throughout the world. For it would effectively prohibit any development in an upstream state that adversely affected the flow of the water to a state or states downstream. Taken to an extreme, this would prohibit not only diminutions in quantity or quality (as (p. 117) through large-scale irrigation projects), but also dams that do not reduce annual average flows but regularize water levels that formerly rose and fell with seasonal changes. In fact, some authorities believe the failure of the 1923 Geneva Convention relating to the Development of Hydraulic Power Affecting More than One State[129] may be attributable to what is seen as such a right of veto in the downstream state.[130] This section will review the more prominent illustrations of state practice and scholarly writings with a view to determining the strength of support for the doctrine.

1. State practice

Among the states that have invoked this doctrine is, ironically, the very country that is most closely associated with its theoretical opposite, absolute territorial sovereignty. In a memorandum prepared for the United States Agent in the *Trail Smelter* arbitration,[131] a case involving transfrontier air pollution rather than use of an international watercourse, the Legal Adviser of the U.S. Department of State stated:

> It is a fundamental principle of the law of nations that a sovereign state is supreme within its own territorial domain and that it and its nationals are entitled to use and enjoy their territory and property without interference from an outside source.[132]

Also ironically, among the authorities the Legal Adviser cited in support of this proposition was the very U.S. Supreme Court case that had been relied upon by Attorney-General Harmon in support of the absolute territorial sovereignty doctrine, *The Schooner Exchange v McFaddon*.[133] The Legal Adviser declared that an international wrong had been committed in the *Trail Smelter* case, consisting of "acts which deprive us of the free and untrammeled use of our territory in a manner which (p. 118) we as a sovereign state have an inherent and incontestable right to use it."[134] While *Trail Smelter* involved transboundary air pollution, emanating from a smelter at Trail, British Columbia, Canada, and causing harm in the U.S. State of Washington, the Legal Adviser's memorandum drew no distinction between harm caused by putting something *into* another state, on the one hand, and *withholding* something, on the other. Indeed, both change the natural status quo and interfere with a state's ability to use its territory as it sees fit. If and to the extent that the former is prohibited, it would seem to follow that the latter should be as well. Otherwise, not only wholesale diversions of international watercourses, but also such activities as weather modification to the detriment of another state, would be legitimized—a

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result that promotes neither the reasonable sharing of common natural resources nor friendly relations and cooperation between states.

But in fact, the United States' invocation of this extreme theory demonstrates above all the folly of either of the two theories thus far considered: they may be useful as tools of advocacy, but they afford little assistance in the resolution of concrete controversies. One would allow unbridled action irrespective of harm caused in a neighboring state; the other would confer a veto over action in a neighboring state, irrespective of its reasonableness, something the tribunal in the *Lake Lanoux* case rejected as it would, "at the discretion of one State paralyse[] another State's exercise of its territorial competence."[135] Indeed, in the *Trail Smelter* case itself, the tribunal allowed the smelter to continue operating, but subjected it to both a very stringent emissions regime designed to avoid unreasonable harm in Washington, and the duty to provide compensation for any damage caused despite compliance with the regime.

The doctrine of absolute territorial integrity has also been invoked by several lower riparian states in disputes concerning non-navigational uses of international watercourses. Egypt is particularly sensitive to the possibility of development of the Nile by upstream countries. That country's reliance on Nile waters over the millennia has led it to believe that it has "natural and historical rights,"[136] or "acquired rights"[137] in those waters. This belief is reflected in positions taken by Egypt in international fora as recently as 1981, such as the following: "Each riparian country (p. 119) has the full right to maintain the status quo of the rivers flowing on its territory;" "it results from this principle that no country has the right to undertake any positive or negative measure that could have an impact on the river's flow in other countries."[138] The Egyptian statement continued, evidently addressing Egypt's upstream neighbors: "a river's upper reaches should not be touched lest this should affect the flow of quantity of its water;" and, so that there would not be any doubt as to the meaning of this last statement, "in general any works at a river's upper reaches that may affect the countries at the lower reaches are banned unless negotiations have taken place."[139] In practice, however, Egypt has agreed to projects in upper Nile basin countries, such as the Owen Falls Dam in Uganda at the outlet of Lake Victoria.[140] In the latter case, Egypt even agreed to pay substantial compensation for the loss of hydroelectric power resulting from measures taken to protect irrigation interests in Egypt.[141] As already noted, it was also an active participant in the development of the Nile River Basin CFA.[142]

Perhaps the greatest challenge to Egypt's position is presented by Ethiopia's Grand Ethiopian Renaissance Dam (GERD), construction of which began in April, 2011, and continues at the time of writing. This dam, being constructed across the Blue Nile some 20 kilometers upstream of the border between Ethiopia and Sudan, will be 145 meters high and have a storage capacity of 74 billion cubic meters (BCM). The GERD is slated to have an installed capacity of 6,000 megawatts, nearly three times the capacity of the Aswan High Dam. Construction on the GERD project began during the January, 2011, revolution in Egypt which resulted in the overthrow of President Hosni Mubarak and entirely consumed the country's attention. Egypt has since participated in discussions of the GERD and joined a Declaration of Principles on the GERD signed in Khartoum on March 23, 2015 by the presidents of Egypt and Sudan and the prime minister of Ethiopia.[143] Sudan, which will benefit from the GERD's storage capacity and electricity production, supported the project, breaking a long period of taking joint positions on Nile matters with Egypt. But it is far from clear that in the end, Egypt will not benefit from the project. The GERD adds significant storage capacity to that of the Aswan High Dam (74 BCM at the GERD and 162 BCM at Aswan), far less of which will be lost to evaporation (p. 120) at the GERD, and produces much-needed electricity for the three countries, and probably others in the future. One lesson that can be drawn from this story is that it will usually be futile for countries, even regional hegemons like Egypt, to rely on absolutist doctrines like absolute territorial

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integrity. Far better for them to prepare for equitable and reasonable sharing of international watercourses and their resources in both the short and long terms.

In its dispute with India over the waters of the Indus basin shortly after the partition in 1947 of colonial India,[144] Pakistan, the lower riparian, took what has been characterized as a position of absolute territorial integrity.[145] In a telegram to Prime Minister Nehru of India, the Prime Minister of Pakistan stated: "The view of the West Punjab Government is that the water supply cannot be stopped on any account whatsoever and we fully endorse this view. Such stoppage is a most serious matter . … It will cause distress to millions and will result in calamitous reduction in production of foodgrains, etc."[146] However, protesting against complete "stoppage" of the flow of an interstate stream is hardly to be equated with the espousal of an absolute territorial integrity position. Such a view would equally be compatible with either of the two theories discussed next, both of which recognize rights (and interests) in all riparian states. And in the following year, Pakistan proposed a conference for the purpose of agreeing upon an "equitable apportionment" of all waters shared by the two countries,[147] hardly an "absolute" position.[148]

One of the best known cases in the field of international watercourses, the *Lake Lanoux* arbitration,[149] also involved a claim that has been characterized as being one of absolute territorial integrity.[150] That case involved a French hydroelectric scheme that would have diverted waters from the River Carol system upstream of the Spanish border into another drainage basin that did not flow into Spain, but then would have returned an equivalent amount of water to the Carol before it flowed into Spain. While conceding that it would continue to receive the same quantity and quality of water as before the project, Spain contended the French plan would cause it injury, for two related reasons: first, the returned water would come from another basin, that of the Ariège; and second, that since the water would be delivered to the Carol by artificial means, depending upon human will, the supply could be interrupted by human intervention, creating a de facto inequality and "the physical possibility of a violation of law."[151] Spain further contended that the 1866 (p. 121) Treaty of Bayonne and Additional Act between the two countries precluded France from proceeding without first obtaining Spain's agreement.

The tribunal rejected Spain's contentions, stating in part:

> there is not, in the Treaty and Additional Act … or in the generally accepted principles of international law, a rule which forbids a State, acting to protect its legitimate interests, from placing itself in a situation which enables it in fact, in violation of its international obligations, to do even serious injury to a neighbouring State.[152]

The tribunal added that France's assurances that it would not interfere with the water-delivery system constituted a sufficient guarantee for Spain, "for it is a well-established general principle of law that bad faith is not presumed."[153]

With regard to the necessity of Spain's prior consent the tribunal, again relying in part on general principles of international law, stated: "the rule that States may use the hydraulic power of international waterways only if a *preliminary* [*préalable*] agreement between the States concerned has been concluded cannot be established as a customary rule or, still less, as a general principle of law."[154] In any event, Spain had conceded in the arbitration that: "A State has the right to use unilaterally the part of a river which traverses it to the extent that this use is likely to cause on the territory of another State a limited harm only, a minimal inconvenience, which comes within the bounds of those that derive from good neighbourliness."[155] Thus, Spain's position *technically* does not appear to have been one of "absolute" territorial integrity. Even to the extent that Spain can be considered to have asserted such a position, it was based not on general international law but on a treaty it had

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concluded with France. And the tribunal ultimately rejected any such contention, regardless of its basis.

Bolivia, a downstream state in relation to Chile, is said by some commentators to have relied on the doctrine of absolute territorial integrity in disputes concerning the Rio Mauri and the Rio Lauca,[156] discussed above.[157] In the Rio Mauri case, Bolivia relied upon civil law, in particular the law of riparian rights.[158] While this doctrine of private law has some features in common with the theory of absolute territorial integrity,[159] its invocation is hardly a sound basis for concluding that a country believes the latter theory to be part of general international law.

(p. 122) The dispute between Chile and Bolivia over the Rio Lauca[160] originated in an announcement by the President of Chile in June, 1939, of that country's plans to transfer water from the Lauca basin to the Azapa basin for irrigation of the Azapa valley. Bolivia protested these plans in a note which, relying upon the 1933 Declaration of Montevideo,[161] stated that international law permitted an upstream state to utilize an international river provided it did nothing "which would modify in any form the hydrologic conditions and the natural regime of the river."[162] While Bolivia maintained its strict position in the matter, observers have characterized the dispute as being merely one incident in an overall climate of tension between the two countries dating back to the 1830s, and "essentially a tool with which the Bolivian government could unite its people on the less dramatic, but much more basic, question of an outlet to the sea."[163] Bolivia's extreme legal position in the case is perhaps best understood in this context.[164]

2. The views of publicists

The doctrine of absolute territorial integrity is said[165] to be supported by certain commentators,[166] including Schenkel (1902),[167] Max Huber (1907),[168] Fleischmann (1913),[169] Reid (1933),[170] and Oppenheim (8th edn. 1955).[171] Once again, however, prudence suggests that caution be exercised before ascribing to these authors such an extreme view of the law. Indeed, Max Huber, the great Swiss jurist, is in point of fact more measured than his association with this doctrine would indicate.[172] It is true that he maintains that: "Every state must allow rivers … to flow naturally; it may not divert the water to the detriment of one or more other states having rights in the river, or interrupt, artificially increase or diminish its flow."[173] (p. 123) But he also states that insubstantial transfrontier effects must be tolerated when they result from lawful activities and do not affect significant interests of the neighboring country;[174] and that because international law relating to sovereignty over international watercourses was undeveloped, legal principles in the field were to be derived from the field of neighborship law,[175] also known as the principle of good neighborliness. This is above all a law of cooperation (through such means as prior notification and consultation, taking the other state's interests into account[176]) and according to Andrassy, one of equitable utilization, at least where there is an irreconcilable conflict between the interests involved.[177]

Oppenheim's eighth edition may be read as supporting the theory under discussion, but it is submitted that a more reasonable interpretation would attribute to it only the more obvious view that an upstream state may not entirely "stop or divert" a successive watercourse or "make such use of the water of the river as either causes danger to the neighboring state or prevents it from making proper use of the flow of the river on its part."[178] That the latter interpretation is more likely the correct one is suggested by the ninth edition of the work, which retains the language in question but adds such statements as "a neighbouring state cannot object to works carried out by another riparian, unless its own interests in the river waters are affected substantially."[179]

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The other authors identified above who have been said to support the absolute territorial integrity theory either wrote before state practice concerning non-navigational uses had developed significantly[180] or frame their theories in terms that do not in fact permit them to be categorized readily.[181] Thus, as was the case with the absolute territorial sovereignty theory, close scrutiny reveals that the purported doctrinal support for the theory of absolute territorial integrity appears either quite dated or less strong and unequivocal than might at first blush appear to be the case.

(p. 124) 3. Conclusions

History has been no kinder to the doctrine of absolute territorial integrity than to its theoretical opposite, absolute territorial sovereignty. Both doctrines are, in essence, factually myopic and legally "anarchic:"[182] they ignore other states' need for and reliance on the waters of an international watercourse, and they deny that sovereignty entails duties as well as rights. As fresh water becomes increasingly precious and nations of the world ever more interdependent, both doctrines become increasingly less relevant and defensible. Absolute territorial integrity or kindred doctrines have been relied upon by only a few states in isolated controversies, and even there the claims have not been of an "absolute" nature.[183] It cannot, therefore, be said to have been accepted sufficiently broadly to amount to a regional, let alone an international custom.[184]

It should be noted that the doctrine under examination might be associated with an extreme form of the principle, *sic utere tuo ut alienum non laedas* (so use your property as not to harm that of another). In this case, the "harm" would consist in a change in the natural regime (including flow characteristics or quality) of an international watercourse through new uses in an upstream state. However, if a downstream state is able to "veto" development of international water resources by its upstream neighbor through invocation of the absolute territorial integrity doctrine, it is in fact "harming" that upstream state.[185] To conclude that the two doctrines were identical, therefore, one would have to interpret the *sic utere* maxim to mean (a) that it applied to upstream, but not downstream states; and (b) that any change whatsoever in the natural flow of an international watercourse constituted "harm" to a downstream state. Both interpretations are clearly untenable.

The origins of the *sic utere* maxim are uncertain, despite the use of Latin in its formulation.[186] Somewhat ironically, it is a feature primarily of the common law systems of the United States and the United Kingdom, where it has been invoked in nuisance cases.[187] Even there it has been called "unhelpful and misleading,"[188] (p. 125) and "utterly useless as a legal maxim."[189] On the other hand, no less an authority than Judge Lauterpacht has called it "one of those general principles of law recognized by civilised States which the Permanent Court [of International Justice] is bound to apply by virtue of Article 38 of its Statute."[190] And learned bodies of high repute have found that kindred principles govern disputes over international watercourses. For example, in the preamble to its 1961 Resolution on the Utilization of Non-Maritime International Waters (Except for Navigation), the Institute of International Law recognized that "the obligation not to cause unlawful harm to others is one of the basic general principles governing neighbourly relations," and that "this principle is also applicable to relations arising from different utilizations of waters . …"[191] Of course, this leaves open fundamental questions such as what constitutes "harm," whether the harm in question is "unlawful" and whether the obligation is strict or one of due diligence. These issues will be examined later,[192] but for present purposes we may foreshadow in broad outline the conclusions there reached: while the "no-harm" rule is doubtless one of the fundamental principles governing the relations of states with regard to shared natural resources, it is not interpreted or applied rigidly in state practice.[193] Therefore, while the absolute territorial integrity doctrine and the *sic utere* maxim bear a

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certain facial similarity, the likeness does not extend further than that for the simple reason that the latter principle is not an absolute one.

C. Limited Territorial Sovereignty[194]

Despite the unfortunate Soviet-era connotations of its name,[195] the doctrine of "limited territorial sovereignty" is probably the prevailing theory of international watercourse rights and obligations today.[196] According to this theory, the sovereignty of a state over its territory is said to be "limited" by the obligation not to use (p. 126) that territory in such a way as to cause significant harm to other states.[197] There are two initial points that should be made with respect to this nomenclature.

First, sovereignty has never been absolute. If it were, international law could not regulate the relations between states. Instead, sovereignty carries with it a set of obligations owed to other states. These obligations may be based on treaties, customary international law, general principles of law recognized by the nations of the world, and certain fundamental principles of morality including norms of *jus cogens*. Therefore, to speak of "limited" territorial sovereignty is in this sense a redundancy. But the word "limited" was presumably thought necessary to distinguish this doctrine from that of "absolute" territorial sovereignty.

The second initial point is that the theory of limited territorial sovereignty should not be understood to be confined to the obligation of a state not to use its territory in such a way as to cause significant harm to other states—at least as "harm" is normally understood. It is equally applicable, and increasingly important, with respect to issues of quantitative allocation and may thus be seen as the theoretical precursor of the obligation of equitable and reasonable utilization. The nature of this obligation will be explored further in Chapter 9.

But the idea behind the doctrine of limited territorial sovereignty is a fundamental one that is necessary for the smooth functioning of any society. It is recognized in national legal systems in the form of such rules as those concerning nuisance and battery, rules that reconcile the value of freedom of action with that of freedom from unwanted interferences with person or property. It may be expressed simply and metaphorically as follows: the freedom to swing one's fist ends where the other person's nose begins. Of course, the metaphor is not sufficiently robust to cover all of the applications of the doctrine, chief among them being water allocation and protection of watercourses and their ecosystems. But all of these may be traced back to the idea that freedom in any society cannot be unlimited.

Smith expressed this idea well: "Experience has proved the strict theory of riparian rights [i.e., the doctrine of absolute territorial integrity] to be an obstacle to the proper organisation of a modern community, and the doctrine of the absolute right of each landowner to do what he pleases with the water on his land is so obviously absurd that it has never even been tried."[198] While it cannot be said that the latter theory has never been tried on the international level, the weight of state practice,[199] (p. 127) as well as most modern commentators[200] and decisions[201] support the proposition that states sharing an international watercourse have rights to the use of its waters, that those rights are, in principle, equal, and that accordingly each state must respect the rights of the other. Lipper explains that "equality of right" in the context of international watercourses "means in the first place that all States riparian to an international waterway stand on a par with each other in so far as their right to utilization of the water is concerned."[202] Exactly how this principle is applied in concrete cases is not a question to which a general answer can be given. As Sauser-Hall has observed: "Law is an art as well as a science. It is only by an objective appreciation of the facts that it will be possible to discover the fair extent to which the various riparian states must take their reciprocal interests into consideration."[203] A look

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at illustrations of state practice reveals that states have taken those interests into consideration from the earliest times.

1. State practice

While they do not qualify as “state” practice per se, it is of interest that early legal codes demonstrate an awareness of the need for upkeep of such works as dams and canals to protect lower-lying land against inundation. Thus, the Code of Hammurabi (developed during that ruler’s reign, 1792–1750 BC) provided that flooding damage to fields resulting from failure to maintain irrigation ditches was punishable by a fine equal to the value of the crop lost.[204] Similarly, the *Li Ki* of the Zhou Dynasty (*c.*1046–256 BC) recognized the importance of the upkeep of water works and of preventing interference with maintenance activities.[205]

In 1856, Holland made what has been characterized as “the first diplomatic assertion of any rule of international law” concerning the non-navigational uses of international watercourses.[206] The claim concerned the River Meuse, which rises in France, flows through Belgium and into the Netherlands where it forms a common delta with the Rhine. The Dutch government in 1856 protested against Belgian diversion of water from the Meuse into the Campine Canal, which was alleged to have resulted in damage from diminished navigability of the Meuse, increased velocity (p. 128) of a related watercourse, and flooding of land.[207] The position of the Dutch government was stated as follows:

> The Meuse being a river common both to Holland and to Belgium, it goes without saying that both parties are entitled to make the natural use of the stream, but at the same time, following general principles of law, each is bound to abstain from any action which might cause damage to the other. In other words, they cannot be allowed to make themselves masters of the water by diverting it to serve their own needs, whether for purposes of navigation or of irrigation.[208]

The two governments ultimately settled the dispute in treaties of 1863 and 1873.[209]

There are numerous instances in which upper riparian states have recognized rights in lower riparians. Sometimes this even occurs from the outset of negotiations. For example, in the discussions between the United Kingdom and Egypt leading to the 1929 Nile treaty,[210] the United Kingdom Foreign Minister instructed his representative as follows:

> The principle is accepted that the waters of the Nile, that is to say, the combined flow of the White and Blue Niles and their tributaries, must be considered as a single unit, designed for the use of the peoples inhabiting their banks according to their needs and their capacity to benefit therefrom; and, in conformity with this principle, it is recognized that Egypt has a prior right to the maintenance of her present supplies of water for the areas now under cultivation, and to an equitable proportion of any additional supplies which engineering works may render available in the future.[211]

Smith characterizes this position as “a significant example of the refusal of a powerful state to rely upon the doctrine of the absolute rights of the territorial sovereign.”[212] He notes that “the published correspondence shows that Lord Lloyd [the British negotiator] admitted freely and without argument the principle of Egypt’s ‘ancient and historic rights’ in the waters of the Nile, with the consequence that the apportionment of the water must rest upon the agreement of the two governments concerned.”[213]

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In his study of the regime of the Nile basin, Garretson notes that "as soon as the Sudan was given a degree of control over her foreign affairs she indicated that she did not consider herself as bound by the 1929 [Nile Waters] Agreement."[214] However, the Preamble of the 1959 Nile treaty between Egypt and Sudan seems to admit the continued validity of the 1929 treaty by stating: "whereas the Nile (p. 129) Waters Agreement concluded in 1929 has only regulated a partial use of the natural river and did not cover the future conditions of the fully controlled river supply, the two riparians have agreed to the following . …"[215] In negotiations leading to the 1959 treaty, which provided for the construction by Egypt of the Aswan high dam, the Sudanese government stated: "It is not disputed that Egypt has established a right to the volumes of water which she actually uses for irrigation. The Sudan has a similar right."[216] Sudan agreed with Egypt that any supplies of water additional to those in which there were established rights must be apportioned equitably, although agreement upon a specific equitable allocation was not reached at that time.[217] The 1959 Nile Waters Agreement, however, did confirm the "established rights" of each party to the quantities of water actually used at the date of the treaty.[218] One author comments that the regime established by this Agreement "confirms the idea that the parties drifted further towards the concept of equitable shares."[219]

The dispute between Argentina and Brazil over the use of the waters of the Paraná River,[220] while primarily involving questions of consultation, provision of information, and cooperation, is also of present interest. Argentina and Brazil each planned to construct a dam on the Paraná, but at different points. The Argentine dam would be located at Corpus, where the Paraná forms the border between Argentina and Paraguay; the Brazilian dam would be situated upstream at Itaipú, where the Paraná forms the border between Brazil and Paraguay. Because of the apprehension that the Itaipú project, in conjunction with others in Brazil, would adversely affect the Corpus dam, Argentina claimed that Brazil was under an international legal duty to provide information to and consult with Argentina concerning its plans. Although Brazil refused to recognize such an obligation,[221] it later concluded a bilateral agreement with Argentina which provided that in the field of the environment, states would cooperate by providing technical data regarding works to be undertaken within their jurisdiction in order to prevent any appreciable harm which may be caused in the human environment of the neighboring area.[222] The Agreement also provided (p. 130) that "in the exploration, exploitation and development of their natural resources, States must not provoke [appreciable] harmful effects on zones located outside their national jurisdictions."[223] The text of this agreement was later adopted as General Assembly Resolution 2995 (XXVII) of 15 December 1972.[224] Furthermore, in June, 1971, Argentina and Brazil both signed the "Act of Asunción,"[225] which contains the "Declaration of Asunción on the Use of International Rivers." Paragraph 2 of that Declaration provides that, in the case of "successive international rivers, where there is no dual sovereignty, each State may use the waters in accordance with its needs provided that it causes no appreciable damage to any other State of the [La Plata] Basin."[226] Argentina, Brazil, and Paraguay ultimately concluded an agreement in 1979 providing for the coordination of the two projects.[227]

In the dispute between Chile and Bolivia over the use of the Rio Lauca, discussed earlier,[228] Chile, the upstream state, recognized that Bolivia had "rights" in the waters and went on to state that the Montevideo Declaration of 1933 "may be considered as a codification of the generally accepted legal principles on this matter."[229] That Declaration provides, inter alia, that states have the "exclusive right" to exploit the portion of a contiguous or successive river that is within their jurisdiction, but conditions the exercise of this right "upon the necessity of not injuring the equal right due to the neighbouring State" in the portion under its jurisdiction.[230] Lipper notes that despite the fact that the dispute resulted in rioting and

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a severance of diplomatic relations by Bolivia, “Chile did not assert the Harmon Doctrine”[231] of absolute sovereignty.

In the *Lake Lanoux* Arbitration,[232] France pointed to “the sovereignty in its own territory of a State desirous of carrying out hydro-electric developments,” but at the (p. 131) same time recognized “the correlative duty not to injure the interests of a neighboring State.”[233] France did not assert a “Harmon Doctrine” position, but argued that Spain’s consent to the project in question was not required because restitution of the diverted water would result in there being no alteration of the flow of the River Carol as it entered Spain.

In the 1950s, U.S. President Eisenhower sent Eric Johnston[234] to attempt to mediate a resolution of the dispute between Israel and neighboring Arab countries over the use of the Jordan River and its tributaries.[235] Johnston filed a report in 1954 that has been summarized in part as follows:

> Syria, Lebanon, Jordan and Israel have accepted the principle of international sharing of the contested waters of the Jordan River and are prepared to cooperate with the U.S. Government in working out details of a mutually acceptable program for developing the irrigation and power potentials of the river system.
>
> … Mr. Johnston stated that the plan involved acceptance by the Arab countries and Israel of the following principles:
>
> 1. The limited waters of the Jordan River system should be shared equitably by the four states in which they rise and flow. This principle was implicit in the valley plans put forward respectively by the Arab states and Israel, both of which clearly recognized the right of the other states to a share of the available waters. It was affirmed by both sides during the recent conversations with Mr. Johnston.[236]

Technical experts of the states involved agreed upon a unified Jordan Valley plan proposed by Johnston, which was based upon the above principles. Prime Minister Eshkol of Israel later stated that “Mr Johnston produced a unified regional plan which was based upon accepted rules and principles of international law and procedure . …”[237] Unfortunately, however, the Johnston plan ultimately was not voted upon by the Israeli cabinet and was referred back to a technical committee after discussion by the Political Committee of the Arab League in October, 1955.[238] Thereupon, Israel decided to proceed with its own project for the diversion of Jordan River waters, but “undertook not to exceed the quantities allotted to it” under the (p. 132) Johnston plan.[239] The Arab states responded with plans to divert headwaters of the Jordan located in Arab territory, but this project was not implemented.[240] These events are discussed further in Chapter 8.[241]

The United States, both an upper and lower riparian in respect of Canada, and predominantly an upper riparian in relation to Mexico,[242] indicated in a 1958 State Department memorandum its view that “an international tribunal would deduce the applicable principles of international law to be along the following lines,” inter alia:

> 1. A riparian has the sovereign right to make maximum use of the part of a system of international waters within its jurisdiction, consistent with the corresponding right of each coriparian.
>
> *Comment*—The doctrine of sovereignty is a fundamental tenet of the world community of states as it presently exists. Sovereignty exists and it is absolute in the sense that each state has exclusive jurisdiction and control over its territory. Each state possesses equal rights on either side of a boundary line. Thus riparians each possess the right of exclusive jurisdiction and control

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over the part of a system of international waters in their territory, and these rights reciprocally restrict the freedom of action of the others.

2. (*a*) Riparians are entitled to share in the use and benefits of a system of international waters on a just and reasonable basis.

(*b*) In determining what is just and reasonable account is to be taken of rights arising out of—

…

(3) Established lawful and beneficial uses . … [243]

This "restatement" of "principles of international law governing systems of international waters"[244] could not be clearer in its rejection of the notion of absolute territorial sovereignty and its embracing of the doctrine of limited territorial sovereignty. Not only do the rights of each state in the portion of an international watercourse system within its territory "reciprocally restrict the freedom of action of the others," "[e]stablished lawful and beneficial uses" are the subject of "rights" that must be taken into account in determining the "just and reasonable" share to which each riparian state is entitled. These principles flatly contradict the "Harmon Doctrine" and are in accord with the way in which the dispute that produced that doctrine was settled in the 1906 Convention.[245]

In the United States' earlier negotiations with Canada, which led to the 1909 treaty concerning boundary waters between Canada and the United States,[246] the position of the Canadian negotiators was that all existing and future disputes should be resolved by an international tribunal in accordance with principles to be (p. 133) incorporated into the treaty. Canada stated these principles, which were "apparently believed in general to be existing law,"[247] as follows:

1. Navigation was not to be impaired by other uses.

2. Neither country could make diversions or obstructions which might cause injury in the other without the latter's consent.

3. Each country would be entitled to the use of half the waters along the boundary for the generation of power.

4. Each country would be entitled to an "equitable" share of water for irrigation. [248]

These principles, articulated in 1907, reflect a limited sovereignty approach by a country that, as noted above, is both an upper and lower riparian vis-à-vis its neighbor.

At about this time, the United States was considering plans to divert waters of the St Mary River, which flows into Canada. When the latter protested that the diversions might result in injury to existing uses in Canada, the United States responded that "it intended to safeguard such uses."[249] The issue was ultimately settled in Article VI of the 1909 treaty. In that article, the United States agreed to a formula that is referred to as an "equal apportionment" of the waters of the St Mary and Milk Rivers but that in fact appears to reflect an effort to arrive at a more flexible equitable apportionment.[250]

Decisions of international courts and tribunals in cases involving both international watercourses and analogous situations also support the proposition that international law imposes restrictions upon a state's freedom of action in relation to the portion of an international watercourse system situated within its territory.[251] In fact, no known international decision supports a contrary rule. One of the best known decisions of an international tribunal involving non-navigational uses of international watercourses is that

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in the *Lake Lanoux* Arbitration.[252] In that case France, the upstream state on the River Carol, did not take a position of absolute territorial sovereignty but was instead at pains to demonstrate that it had taken into account the interests of Spain, the downstream state, and that the flow of water into Spain would not be affected by the French hydroelectric project. The project had been under consideration since 1917, when the law of the non-navigational uses of international watercourses was still developing. Yet in those early stages France had assured Spain that no decision concerning a diversion of waters of the Carol would (p. 134) be taken without previously notifying Spain,[253] and even that the question "could be definitively resolved only with the agreement of the Spanish Government."[254] Later, France in fact modified the project after Spain refused to accept compensation for a reduction of the flow into Spain under the project's original version. However, "while accepting the principle that the waters drawn off should be returned, [France] regarded itself as bound only to return a quantity of water corresponding to the actual needs of the Spanish users."[255] But France subsequently decided to adopt a scheme that would return to the Carol, before it flowed into Spain, the same quantity of water that had been diverted.

In its memorial, France did refer to "the sovereignty in its own territory of a State desirous of carrying out hydro-electric developments,"[256] but also recognized "the correlative duty not to injure the interests of a neighbouring State . …"[257] For its part, Spain contended that: "A State has the right to use unilaterally the part of a river which traverses it to the extent that this use is likely to cause on the territory of another State a limited harm only, a minimal inconvenience, which comes within the bounds of those that derive from good-neighbourliness."[258] The tribunal's formulation of the rule was similar, although it would apparently permit a somewhat higher level of transboundary harm: "there is a rule prohibiting the upper riparian State from altering the waters of a river in circumstances calculated to do serious injury to the lower riparian State . …"[259] Thus, while the question actually submitted to the tribunal concerned whether the French project would violate agreements between the two states,[260] both the positions of the parties and the statements of the tribunal itself can be taken as support for the doctrine of limited territorial sovereignty.

More recently, the doctrine was given strong support by the International Court of Justice (ICJ) in the *Gabčíkovo-Nagymaros* case.[261] As will be seen in Chapter 7, the ICJ in that case left no doubt that the governing principle in the field of international watercourses is equitable utilization. The same may be said of the Court's decision in the *Pulp Mills* case.[262]

Two other decisions, while not involving international watercourses, may also be cited here in support of the doctrine. In the *Corfu Channel* case, which involved the question of Albania's responsibility for damage caused to British ships by mines in the channel between the Greek island of Corfu and Albania, the ICJ referred to "every State's obligation not to allow knowingly its territory to be used for acts (p. 135) contrary to the rights of other States."[263] And in the *Trail Smelter* arbitration,[264] concerning sulfur dioxide fumes emitted by a smelter at Trail, British Columbia, Canada, that caused harm in the U.S. state of Washington, the arbitral tribunal concluded that:

> under principles of international law, … no State has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence.[265]

The facts of these cases are obviously quite different from those of a case involving non-navigational uses of international watercourses. But the principles upon which the decisions rest would seem to apply equally to shared water resources. It seems clear that those principles would at least prohibit transboundary water pollution harm (indeed the *Trail Smelter* tribunal found that "the nearest analogy is that of water pollution"). Whether they

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would apply to reduction of flow through upstream diversions is somewhat less obvious, but the devastating consequences that can ensue for established downstream uses (as in the Rio Grande case) seem to compel an affirmative answer. In all of the cases, the overriding lesson is that with territorial sovereignty comes obligations to other states.

Decisions of national courts also support the doctrine of limited territorial sovereignty. Most often cited in this connection are the "equitable apportionment" decisions of the United States Supreme Court in cases between American states.[266] In the first of those cases, *Kansas v Colorado*,[267] the Court stated in 1907 that its task was to "so adjust the dispute upon the basis of equality of rights as to secure as far as possible to Colorado the benefits of irrigation without depriving Kansas of the like beneficial effects of a flowing stream."[268] In dismissing the complaint the Court stated that Kansas, the downstream state on the Arkansas River, could institute new proceedings if it appeared that "through a material increase in the depletion of the waters of the Arkansas by Colorado, … the substantial interests of Kansas are being injured to the extent of destroying the equitable apportionment of benefits between the two states resulting from the flow of the river."[269] While the body of decisional law in other countries is not so extensive, it also generally supports the doctrine of limited territorial sovereignty.[270]

(p. 136) 2. The views of publicists

Commentators overwhelmingly endorse the view that international law imposes limitations on a state's freedom with regard to the portion of an international watercourse system within its territory.[271] The reasons they give for this position differ somewhat, however. A number of commentators have explained the theory of limited territorial sovereignty in terms of "neighborship law."[272] In his seminal 1907 article, Max Huber rejects the notion that international watercourses are subject to joint ownership by the states concerned. He reasons that this would mean a limitation of the independence of states, which cannot be presumed with reference either to state territory itself or to the exercise of territorial sovereignty. He therefore concludes that the international legal principles that govern the relations between riparian states cannot be considered as an expression of a legal presumption of joint ownership, but are solely forms of neighborship law.[273] According to Huber, this body of law contains, among others, the following principles applicable to international watercourses:

> 1. Every state is free to do as it wishes with its territory, and exercises its authority exclusively there; it has neither a right to affect other territories nor the duty to tolerate such effects.
>
> 2. Only those effects in other territories are unlawful that affect the natural or artificial state of things and thereby rights in the territory of the other state.
>
> 3. No state is obligated to grant another an advantage; it has only the duty not to cause harm.
>
> 4. Insubstantial transfrontier effects must be tolerated when they result from lawful uses of property. [274]

It has been seen that while Huber has been associated with the doctrine of absolute territorial integrity, the views stated in his early article are in fact more compatible with the theory of limited territorial sovereignty.[275]

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Later works interpret more flexibly the content of neighborship law as applied to international watercourses, often deriving neighborship rights and duties from the physical unity of watercourses.[276] This "hydrographical (p. 137) unity,"[277] when combined with "the conception of the international community,"[278] finds expression in principles of the "conciliatory law"[279] of "riparian neighbourship rights from which follow the general obligations of mutual consideration and of forbearance from actions that will interfere with a neighbour's common usage."[280] Thus, a state may develop its portion of an international watercourse "in so far as such development is liable to cause in the territory of another state only slight injury or minor inconvenience compatible with good neighbourly relations,"[281] although Smith recognizes a duty to compensate for changes causing a "minor detriment."[282]

Commentators, from an early date, have also found that principles of equity and the doctrine of abuse of rights come into play in reconciling the interests of riparian states. Thus, according to Fauchille, "riparians are bound to act so as to conform with the principle of equity."[283] And Quint concludes that "international neighbourship law … is pre-eminently a law of equity . … The doctrine of absolute sovereignty … leads here to an 'abuse of rights.' "[284] The idea of limited territorial sovereignty also finds echoes in the theory of use of territory contrary to the rights of others.[285] Some commentators have reached the same result by finding a breach of a prohibitory rule.[286] This is also the effect of the broad holding of the *Trail Smelter* arbitration[287] that a state may not so use its territory as to cause harm to other states.

3. Conclusions

The theory of "limited territorial sovereignty"—that is, that there are legal restrictions on a state's right to use the portion of an international watercourse within its sovereign territory—has been traced to the practice of the constituent entities of the Holy Roman Empire.[288] It is supported by the writings of commentators dating at least from the nineteenth century,[289] has been endorsed by learned societies since as early as 1911,[290] and, as already indicated, is the dominant theory (p. 138) today.[291] The next theory to be discussed has venerable roots as well, but also indicates the direction in which the law and practice in this field may be heading.

D. Community of Interest[292]

The theory that there is a "community of interest" of riparian states in an international watercourse might sound like a modern innovation. But in fact it has antecedents in Roman law,[293] and figures in a number of early treaties and official acts.[294] It derives from the idea that a community of interest in the water is created by the natural, physical unity of a watercourse.[295] The more fundamental notion that all fresh water is something that should be shared by the community is a powerful one that has been embraced by philosophers and poets since ancient times, including Plato,[296] Ovid,[297] and Virgil.[298] This view of water was endorsed by no less a figure than Grotius. In a chapter of *De juri belli ac pacis* entitled "Of Things which belong to Men in Common," Grotius wrote:

> Thus a river, viewed as a stream, is the property of the people through whose territory it flows, or of the ruler under whose sway that people is. … [T]he same river, viewed as running water, has remained common property, so that any one may drink or draw water from it.[299]

While this passage does not definitively answer the question presently under consideration concerning rights of different countries, it does strongly underline the (p. 139) notion that

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water is something to be treated as "common property," or "public by the law of nations."[300]

These ideas were endorsed by the Permanent Court of International Justice (PCIJ) in its 1929 decision in the case concerning the *Territorial Jurisdiction of the International Commission of the River Oder*.[301] In that case, the PCIJ was asked to decide whether the jurisdiction of the International Commission of the Oder—and thus rights of navigation by states other than Poland—extended, under the provisions of the Treaty of Versailles, to the sections of the tributaries of the Oder, the Warthe (Warta), or Netze (Noteć),[302] that are situated in Polish territory and, if so, what principle must be used to determine the upstream limits of the Commission's jurisdiction.[303] The Commission, which had been organized in 1920 pursuant to Article 341 of the Treaty of Versailles, prepared a draft Act of Navigation as foreseen in Article 343 of the Versailles Treaty. But a controversy arose at the fourth session of the Commission concerning the territorial extent of the internationalization, or internationalized regime, of the Oder.[304] The Court found that under Article 331 of the Versailles Treaty, "internationalization is subject to two conditions: the waterway must be navigable and must naturally provide more than one State with access to the sea."[305] The question was whether this included tributaries (the Warthe (Warta)) and subtributaries (the Netze (Noteć)) upstream of the last international boundary.

Since a "purely grammatical analysis"[306] of the text of Article 331 did not provide a definitive answer, the Court interpreted the article by referring to "the principles underlying the matter to which the text refers," namely, "principles governing international fluvial law in general …"[307] It stated as follows:

> [W]hen consideration is given to the manner in which States have regarded the concrete situations arising out of the fact that a single waterway traverses or separates the territory of more than one State, and the possibility of fulfilling the requirements of justice and the considerations of utility which this fact places in relief, it is at once seen that a solution of the problem has been sought not in the idea of a right of passage in favour of upstream States, but in that of a community of interest of riparian States. This community of interest in a navigable river becomes the basis of a common legal right, the essential features of which are the perfect equality of all riparian States in the use of the whole course of the river and the exclusion of any preferential privilege of any one riparian State in relation to the others.(p. 140)
>
> …
>
> If the common legal right is based on the existence of a navigable waterway separating or traversing several States, it is evident that this common right extends to the whole navigable course of the river and does not stop short at the last frontier . …[308]

The Court accordingly held that the jurisdiction of the Oder Commission did extend to the sections of the Warthe (Warta) and Netze (Noteć) situated in Polish territory.

While the question put to the Court concerned rights of navigation, the analysis quoted above, based as it was upon "principles governing international fluvial law in general," is of broader applicability.[309] The Court derived the notion of a "community of interest of riparian States" from "the manner in which States have regarded the concrete situations arising out of the fact that a single waterway traverses or separates the territory of more than one State," and "the possibility of fulfilling the requirements of justice and the considerations of utility which this fact places in relief." The Court's reference to a "single waterway" implies that it had in mind the natural phenomenon of the unity of a watercourse that may run through or along different states due to the placement of political boundaries. While the precise intention of the Court in referring to the requirements of "justice" is not

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clear, it is not improbable that this term refers to considerations of equity. It could also have been used as a shorthand expression for the idea of a right of states under natural law to enjoy the gifts of nature.

The Court did not suggest that these considerations applied only to navigation. On the contrary, as already noted, it referred to them in the context of its discussion of “the principles governing international fluvial law in general.” It would, therefore, not be unreasonable to conclude that these considerations, and thus the notion of community of interest, apply to uses of international watercourses other than navigation.[310] It would not be particularly surprising for the PCIJ to have taken such a view in light of the history of the idea of community of interest.

These conclusions are fortified by the judgment of the ICJ in the case concerning the *Gabčíkovo-Nagymaros Project* (Hungary/Slovakia).[311] After quoting the portion of the above passage from the *River Oder* case concerning the “community of interest in a navigable river,” the Court stated: “Modern development of international law has strengthened this principle for non-navigational uses of international watercourses as well, as evidenced by the adoption of the Convention of 21 May 1997 on the Law of the Non-Navigational Uses of International Watercourses by the United Nations General Assembly.”[312] On the basis of this principle, the Court concluded (p. 141) that “Czechoslovakia, by unilaterally assuming control of a shared resource, and thereby depriving Hungary of its right to an equitable and reasonable share of the natural resources of the Danube … failed to respect the proportionality which is required by international law.”[313] Thus, the concept of community of interest can function not only as a theoretical basis of the law of international watercourses but also as a principle that informs concrete obligations of riparian states, such as that of equitable utilization.

In keeping with the ancient philosophers’ conception of water, Roman law considered perennial streams to be common or public, *rei publicae jure gentium*.[314] They were treated as things whose use is common to all, no matter who owns them.[315] This approach was carried over into the renowned Siete Partidas, prepared in Spain between 1256 and 1265 under Alfonzo X, which regarded water as *res communis* and rivers as public property.[316] In view of this tradition it is perhaps not surprising that the *Code Napoleon* adopted a similar view, following the Edict of 1669, regarding navigable and floatable streams as being for public use and not capable of private ownership.[317] Similar ideas appear in international practice, particularly beginning near the end of the eighteenth century.

1. State practice

It has been seen in Chapter 3 that historically, at least in well-watered regions the intensity of non-navigational uses was usually insufficient to cause controversies concerning those uses between states riparian to international watercourses.[318] Instead, it was navigation that more typically gave rise to conflicts between the interests of different nations with regard to international rivers, and raised questions as to their respective rights in those watercourses. In view of this development, it is only logical that many of the early pronouncements and instruments seemed to have navigation foremost in mind, as we will see in Chapter 5 on navigation. In addition to certain writings already referred to, this was true of the well-known statement by Thomas Jefferson, then the U.S. Secretary of State, in his report to President George Washington of March 18, 1792. As discussed more fully in Chapter 5, Jefferson in that report defended the right of the United States to freedom of navigation on the lower Mississippi River, then under Spanish sovereignty.[319] He stated in part:[320] “The ocean is free to all men, and their rivers to (p. 142) all their inhabitants.”[321] This argument, ultimately accepted by the King of Spain, was in keeping with international legal thought of the time in its invocation of natural law. A French decree of the same year, concerning the opening of the Scheldt River to navigation, provided in part:[322] “2) Que le cours des fleuves est la propriété commune et inaliénable de toutes les contrées arrosées

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par leurs eaux; . …"[323] The notion that "the course of rivers is the common and inalienable property of all the regions washed by their waters" is derived from "the fundamental principles of natural law" and seems to be based upon the natural phenomenon of the physical unity of a watercourse.

The principles articulated in the French decree were subsequently implemented for "the Rhine, the Meuse, the Scheldt, the Hondt, and all their branches up to the sea."[324] Other examples of the idea that the waters of international rivers are "common" to riparian states include: the Agreement of May 13, 1779, between Austria and the Elector Palatinate, according to which certain rivers "will be common to the House of Austria and to the Elector Palatinate in so far as they border on the ceded territories; …"[325] and the *Reichsdeputationshauptschluss* (Principal Resolution of the Imperial Deputation) of February 25, 1803, which referred to the stretch of the Rhine "from the frontiers of the Bavarian Republic up to the frontiers of the Swiss Republic" as "a common stream between the French Republic and the German Empire . …"[326] Similarly, Article 7 of the Treaty of May 14, 1811, demarcating the frontiers between Prussia and Westphalia, provides that "although the thalweg of the Elbe forms, as to sovereignty, the boundary between Westphalia and Prussia, … the river shall always be considered in connection with navigation and commerce as a common river between the two Kingdoms . …"[327] While some of these agreements concerned contiguous watercourses, which are perhaps more readily conceptualized as being "common" rivers, others dealt with successive ones.[328]

As we have seen, these early agreements were chiefly concerned with navigation. It will be noted, however, that a number of them are not by their terms restricted to navigational uses. Another example is the Treaty of Karlstad of October 26, 1905, between Sweden and Norway, Article 4 of which provides: "The lakes and (p. 143) watercourses which form the frontier between the two states or which are situated in the territory of both or which flow into the said lakes and watercourses shall be considered as common."[329] This provision appears to include in the category of "common" watercourses both successive rivers and those that flow into border rivers and lakes, giving quite broad scope to the concept of common watercourses.

While there are thus a number of examples from the eighteenth and nineteenth centuries of treaties and governmental statements employing the concept of "common rivers" or referring to rivers as "common property," express references to this idea are not found as often in twentieth century instruments. This may be due in part to the gradual displacement of the natural law theories of Grotius and others by positivism. However, several recent agreements and draft treaties do reflect what may be regarded as a community-of-interest approach. For example, the idea that international watercourses are "shared" resources figures prominently in the Protocol on Shared Watercourse Systems in the Southern African Development Community (SADC) Region of August 28, 1995. That agreement employs the expression "shared watercourse system," which is defined in Article 1 as "a watercourse system passing through or forming the border between two or more basin states."[330] The notion that a watercourse is "shared" by two or more states comes very close to the concept that those states have a "community of interest" in the watercourse or hold it in common. But Article 2 removes any doubt by expressly providing that SADC member states are to "respect and abide by the principles of community of interest in the equitable utilisation of [shared watercourse] systems and related resources."[331] This remarkable provision is the only express reference to "community of interest" that has been discovered in a treaty. It is an important and forward-looking statement, especially since it is embodied in an instrument that applies to eleven countries in the southern African region.[332]

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A somewhat similar provision is found in the Agreement of September 14, 1992, between Namibia and South Africa on the Establishment of a Permanent Water Commission.[333] Article 1 of that treaty provides that the objective of the Permanent Water Commission is, inter alia, "to act as technical adviser to the Parties on matters relating to the development and utilisation of water resources of (p. 144) common interest to the Parties . …"[334] The idea of "common interest" perhaps does not go as far as that of common *property*, but would seem to be generally congruent with the notion of "community of interest."[335] As has been seen, the adjective "common" was used in a number of older agreements in reference to international watercourses. It is also employed in the title of the Agreement of July 18, 1990, between Nigeria and Niger concerning the Equitable Sharing in the Development, Conservation and Use of their Common Water Resources.[336] However, the text of that treaty employs the expression "*shared* river basins",[337] perhaps in deference to the greater currency of the term "shared"[338] and the hydrological soundness of the drainage basin approach.[339]

Another treaty reflecting a community-of-interest approach is the Agreement between Bolivia and Peru concerning a Preliminary Economic Study of the Joint Utilization of the Waters of Lake Titicaca of February 19, 1957.[340] Article 1 of that agreement refers expressly to "the fact that the two countries have joint, indivisible and exclusive ownership over the waters of Lake Titicaca . …"[341] The parties agreed in exchanges of notes of December 12, 1992 and May 18, 1993 to establish a Binational Authority for the implementation of the Binational Master Plan of the Titicaca-Desaguadero-Poopo-Salar de Copaisa System.[342] Joint planning and implementation are hallmarks of a community-of-interest approach to the shared use and development of international watercourses.[343]

It will be noted that the agreements from the twentieth century just mentioned are between developing countries, or at least have a developing country as one party. That these states have decided to treat international watercourses as something in which all riparians have an interest is an encouraging sign. Many of the world's most difficult challenges with regard to fresh water are occurring, and will continue to occur, in developing countries. Such an approach will help the concerned countries to meet those challenges in the most hydrologically effective and politically harmonious way possible.

(p. 145) It was perhaps more common for twentieth-century water treaties to *treat* international watercourses as being of common interest than to *refer* to them expressly as common rivers or property.[344] Thus, a number of treaties concluded during the past century established programs for the joint development of international river systems, without regard to political boundaries.[345] Such programs have been instituted for contiguous[346] as well as successive[347] watercourses, and often entail the use of the territory of one riparian state by another,—for example, for water storage—in return for which some form of compensation is provided.[348] A number of treaties concerning the production of hydroelectric power provide for equal division of the benefits of boundary waters;[349] equal sharing of water is a feature of other twentieth-century treaties, as well.[350]

(p. 146) The notion that riparian states have a community of interest in an international watercourse is given concrete expression in a large and increasing number of agreements that establish joint institutional mechanisms for the management of shared water resources. Well over 100 international river commissions have been established by states.[351] A survey prepared by the United Nations Secretariat in 1979[352] lists ninety such bodies, distributed throughout every region of the world,[353] all of which are concerned with the non-navigational uses of international watercourses. The sheer number of these joint mechanisms, together with the fact that they have been established by states that use international watercourses intensively,[354] suggests that some form of institutionalized cooperation is a natural and logical outgrowth of heavy reliance upon shared water resources, and of the interdependence that is its inevitable byproduct. States have entrusted a wide variety of functions to these organizations.[355] It is not uncommon for them

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to confer upon joint commissions the power to make, and in some cases also to implement, plans for the development, use and protection of international water resources.[356] This tendency to (p. 147) create structures of joint governance for internationally shared freshwater resources demonstrates that states recognize that they have a community of interest in those resources.[357]

2. The views of publicists

From an early date, publicists have embraced the theory of community of interest or the equivalent notion that an international watercourse is the common property of the riparian states.[358] This is perhaps not surprising in view of the treatment of watercourses in Roman law, noted above, which strongly influenced the development of the law of nations. We have seen that Grotius, writing in the 1620s, adhered to the view that a river is "common property."[359] The controversy over the opening of the Scheldt to navigation during the following century inspired the German jurist J.A. Schlettwein to advance the following vigorous defense of international watercourses as common property in 1785:

> A river is … destined by God himself to be the common property of all states riparian to it. … None of these states can arrogate to itself an exclusive right to the use of such a river, and none can deprive others of their right to use or navigate upon it. Even if one of them compelled another with force to cease navigation on the river, this would have no binding effect upon the other. For it is and will always remain contrary to fundamental justice to deprive another of the right to use a thing that nature, or its creator, God, had intended as common property.[360]

It is particularly noteworthy that Schlettwein does not confine his argument to navigation, but speaks of the right of all riparians to "use *or* navigate upon" the watercourse. This idea, that an international watercourse is the common property of the riparian states, was adopted only seven years later in the French decree discussed above.[361]

Caratheodory, writing in the mid-nineteenth century, likewise follows a natural law approach: "[A] nation which has not created the river has no exclusive right to it and … it would be the height of injustice if it dared to appeal to unjustifiable theories in order to deprive other nations of a natural right which cannot cause any prejudice to itself."[362] This argument does not, however, go so far as to claim that riparian states enjoy a community of interest in an international watercourse. Moreover, it seems restricted to situations in which recognizing rights in other states would not "cause any prejudice" to a state according such recognition. Yet it is precisely cases involving some prejudice in which the theoretical basis of states' rights in a shared watercourse becomes crucial.

(p. 148) Henry Farnham's 1904 work also savors of natural law thought:

> A river which flows through the territory of several states or nations is their common property. … It is a great natural highway conferring, besides the facilities of navigation, certain incidental advantages, such as fishery and the right to use the water for power and irrigation. Neither nation can do any act which will deprive the other of the benefits of those rights and advantages. … The gifts of nature are for the benefit of mankind, and no aggregation of men can assert and exercise such right and ownership of them as will deprive others having equal rights, and means of enjoyment … [T]he common right to enjoy the bountiful provisions of Providence must be preserved . …[363]

Farnham even went so far as to assert that a state's "inherent right … to protect itself and its territory" would entitle a lower riparian to prevent an upper riparian "by force … from turning the river out of its course or [from] consuming so much of the water … as to deprive the former of its benefit . …"[364] It has been seen that this view was immediately embraced by Mexico at the turn of the twentieth century in its dispute with the United States over the

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Rio Grande, and was in turn strongly rejected by the United States as being unsupported by authority.[365]

The 1920 work of the German writer Lederle explicitly supports the idea of community of property in international watercourses. However, Lederle recognizes the potential for conflict between this principle and that of territorial sovereignty:

> International water law is thus governed in the main by two principles, the principle of the community of property in flowing water and the principle of territorial sovereignty over a watercourse. [T]he two principles frequently come into contact with each other and overlap . …
>
> The principle of the community of property in water is … of decisive importance for all those cases in which only the use of water comes into consideration, … as, *eg*, in the case of bathing, washing and similar activities. The consumption of water is included in the usage of water in so far as the common usage is not thereby prejudiced. Such an uninjurious consumption has been present from time immemorial in the use of water for drinking purposes and for watering cattle, in the satisfying of the domestic needs of the riparians, in the diversion of water for irrigation purposes where this concerns only small amounts, and in similar uses not causing injury to the other riparians.
>
> … [N]o state may obstruct or impair the possibilities of common usage in the territory of another state by measures undertaken in its own territory.[366]

Writing as he was principally about Europe, one of the more humid regions of the world, Lederle may be forgiven for not coming to grips expressly with the problems of scarcity confronting much of the world today. He seems to be saying that there is a community of property in shared waters as long as "the common usage is not … prejudiced," as long as one state's use does not cause "injury to the other riparians." But this is of little help in the difficult cases, such as those involving scarce freshwater resources, large-scale diversions, or significant pollution, which are precisely those in which the common usage may be prejudiced, and in which (p. 149) other riparians may be injured. It is such cases in which the theoretical basis of international watercourse law can play an important role.

For Max Huber, as seen earlier,[367] the interdependence of riparian states is best viewed in terms of neighborship rights rather than joint ownership. Huber doubted the validity of drawing an analogy from the Roman law principle of joint ownership of private waters, because in his view the fundamental principles of public international law, such as that of strict territorial sovereignty, cannot be swept aside through mere interpretation of principles of private law.[368] He notes that while the private law sources[369] are in no way based on an assumption of divided ownership of the riverbed, this is unquestionably the case where riparian states are concerned. According to Huber, in referring to joint ownership the private law sources may have been guilty of the same imprecision as the international law authors who speak of common ownership.[370] What is meant, in his view, is neither a condominium in the territory nor a duty to use the thing jointly, but simply an equal entitlement to use. Thus, for Huber, the principle of joint ownership is valid only with regard to use, not in respect of the thing itself. It would allow the co-owner to dispose freely of its conceptual share and to use the thing freely insofar as the use of the other co-owner was not interfered with.[371] But, he repeats, it never entails the duty to act jointly with regard to the watercourse.[372]

Bonaya Godana addresses the question whether the notion of a community of interest in international watercourses should be regarded as a principle of international law.[373] That author observes that this idea "is well known in municipal water systems and is the legal principle most appropriate for a fully developed legal community."[374] But its reception into international law would be problematic precisely because "the international community is

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far from being fully developed."[375] While states could of course incorporate the principle into agreements concerning shared waters, "the idea has yet to develop into a principle of international law governing international water relations in the absence of treaties."[376] Of course, Godana wrote well before the ICJ, in its judgment in the *Gabčíkovo-Nagymaros* case, declared that "Modern development of international law has strengthened [the community of interest] principle for non-navigational uses of international watercourses as well . …"[377] This finding, building on the PCIJ's application of the community of interest principle in the *River Oder* case, gives the principle a special place in international watercourse law. It sends a clear signal that shared freshwater resources—whether in the form of surface water or groundwater—are not "owned" by any of the states in whose territories parts of them are located, but are subject to obligations imposed by the rights of other states in them. Thus, a state is sovereign over the bed of a river or the geologic formation holding groundwater, but does not enjoy full sovereignty over the water contained in them and shared with another (p. 150) state or states. The states sharing this water have a community of interest in it, which requires that they take each other's interests into account in using it.

It has already been seen[378] that according to Hartig, states sharing a drainage basin are in the same position as co-owners of a single *res*. This followed from the physical fact that every river basin forms a single, coherent unit. Therefore, a riparian state could no more acquire an exclusive right to the part of the *res* that happened to be located within its territory "than a farmer could acquire an exclusive property right in just one leg of a live cow."[379] It followed for Hartig that any action within the territory of one riparian state that affected the watercourse in other states would not constitute simply a claim to the first state's portion of the *res*, but "would amount to a claim to the *res* as a whole, ie, also to all those parts of the river which are located outside its territory."[380] These considerations formed the basis of Hartig's "coherence principle," according to which: "the various riparian states are in the same position as any co-owners of a *res* which consists of one unit and cannot be split into parts. Just like co-owners, they can act only by mutual consent in respect of this inseparable *res*, the international river."[381] Thus, a river basin is considered a "single, inseverable, coherent *res*," which is held by the riparian states "in a sort of 'co-ownership'."[382] This entails specific legal consequences, such as that of equitable allocation, the duty not to withhold consent to a co-riparian's projects unreasonably, and the duty to consult and negotiate concerning contemplated changes in the use of shared waters.[383]

Lucius Caflisch begins his discussion of this theory by noting the emergence of the idea that shared natural resources situated beyond the limits of national jurisdiction are the "common heritage of humanity."[384] As examples of such resources he cites the seabed, the Moon and other celestial bodies, the geostationary orbit, and broadcast frequencies. These are resources that, according to Caflisch, are or should be "internationalized," and developed in the interest and for the benefit of all states, under the supervision and even with the active assistance of an international institution having a universal character.[385] He recognizes, however, that such regimes, in principle, result from treaties. Caflisch asks whether this idea could be transposed to international watercourses, and, if so, to what extent. He accepts that riparian states form what may conveniently be called a "community," despite the borders that separate them; and that a simple partition of the waters, even if it be perfectly equitable, would not necessarily constitute the optimal way of developing a watercourse system. Hence the idea of "denationalizing" international watercourses and transferring their management from individual states to a joint organization.[386] Caflisch concludes that while some treaty regimes go quite far in imposing limits on the sovereignty of states parties, they do not have a sufficient integrating effect to transform the watercourses concerned into a "common patrimony" of the riparian states, with all that this concept may entail.[387] Caflisch then asks whether (p. 151) international

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watercourses, or at least their utilization and resources, may not be regarded as forming a condominium of the states concerned.[388] He concludes that, while it is clear that a condominium could be established by treaty, one cannot maintain that, by virtue of the rules of customary law, the whole of an international watercourse, including its resources, forms a condominium.[389] Caflisch notes that the existence of a condominium would imply that each of the riparian states would have a right of veto over new activities by other states. He is of the view that, as with the theory of absolute territorial integrity, one would have to conclude that such a right does not exist.[390]

3. Conclusions

While it might appear at first blush to be a radical innovation, the notion that there is a community of interest of riparian[391] states in the waters of an international watercourse is a venerable one. It derives from the vital nature of water to all life, the unity of a watercourse, and the importance of watercourses as means of transportation, communication, and socio-economic development. Just as the PCIJ found in its 1929 *River Oder* decision that the community of interest of riparian states formed the basis of a common legal right in "the whole course of the river," including its tributaries, so it must be concluded today, with the ICJ in its 1997 judgment in the *Gabčíkovo-Nagymaros* case, that this community of interest applies to non-navigational uses as well as to navigational ones. The community of interest extends to all terrestrial elements of the hydrologic cycle, that is, those that include not only tributaries but also groundwater that is hydrologically connected to surface streams or lakes or is intersected by an international boundary. This does not mean that state A has the same rights as state B in groundwater situated in state B, for example. But it recognizes that state A may have an interest in what state B does with that groundwater. For actions of one state with regard to an element of a watercourse system, be it groundwater or a tributary, could affect another state's use of the watercourse just as significantly as if the action were taken on the main stem.

Granting that the community of interest theory is by no means a new one, it must be said that its precise legal implications for non-navigational uses are less than completely clear. The legal import of the doctrines of absolute territorial sovereignty and integrity is clear enough; that of limited territorial sovereignty, while not so stark, is also fairly well understood. How, then, is the notion of community of interest (p. 152) different from these theories? It is one thing to say, as the PCIJ did in the *River Oder* case, that one state may not prevent other states from navigating on an international watercourse because they all enjoy a community of interest in it. It is something quite different to maintain that the community of interest in an international watercourse allows one state to prevent another state from diverting water from it, for example. While *all* riparian states (and other states, as well) may have an interest in *navigating* on the *whole* course of a river, can it be said that all riparian states have an interest in the whole course of a river—that is, the entire watercourse system—insofar as *non*-navigational uses are concerned? For example, would a state that was not adversely affected by a co-riparian state's diversion have legal grounds for protesting the diversion, absent an applicable agreement? There would seem to be little doubt that the answer would be in the negative. Such a right is supported neither in state practice nor in the writings of commentators. Therefore, the concept of community of interest must have another meaning in the case of non-navigational uses. In order to clarify the meaning of the concept of "community of interest," or of "interests," we should first examine what is meant by the term "interest" in this context.

A state's "interests" in an international watercourse system would generally be defined by its present and prospective uses of the watercourse as well as its concern for the health of the watercourse ecosystem. Its interests would be influenced by a wide variety of factors, including those of a cultural, economic, geographical, meteorological, and hydrologic nature. They will often have built up over time through the development of different uses of the watercourse, and may extend to a concern for its protection for the benefit of future

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generations. They may differ widely from state to state. Riparian states may place more or less emphasis on domestic, agricultural, industrial, navigational, or other uses, and they may rely more or less heavily upon the watercourse. For example, experience shows that, historically, a watercourse may have been utilized very little by a state at its headwaters while it was essential to the existence of a state downstream.[392] Depending on the nature of the use and the position of the state on the watercourse, a use may have effects upon, or be affected by, uses in other states. The use could also affect the ecosystem of the watercourse, which could have impacts upon all riparian states.[393] Thus, on the one hand, each riparian state has a *unique interest*, or bundle of interests, in the watercourse—interests that may or may not affect or be affected by uses of other states. But on the other hand, the interests of all riparian states are in *one and the same watercourse system*; they may in this sense be said to be bound together by that system—to have a "community of interest" in it. And while it is only a part of the hydrologic cycle, the watercourse system is a unity unto itself.

A state's interest in a given use includes an interest in being free from interferences with that use by other states. Thus, for example, state A may have an interest in using water from the Green River for irrigation; that interest implies a companion interest in freedom from interference with its irrigation by state B, located upstream on the (p. 153) Green River. State B may have an interest in developing its stretch of the Green River for the purpose of generating hydroelectric power. Likewise, that interest implies a companion interest in its use not being interfered with by state C, further upstream. State C may have an interest in navigating on the Green River, unimpeded by any works constructed downstream by states B and A. The fact that these states have the interests described does not necessarily mean the interests are legally protected. An interest may be legally protected, or not; it may be protected to an extent, but not absolutely; and so on. The extent to which a state's interest in an international watercourse is legally protected will be examined further in Part IV on Fundamental Rights and Obligations.

It follows from the foregoing that the lack of a right to protest a co-riparian's use does not necessarily imply the lack of an interest. Thus, the fact that a state unaffected by co-riparian's diversion would generally not have legal grounds to protest the diversion clearly does not mean that it has no interests in the watercourse. Undoubtedly, it does have such interests. It simply means that its interests were not impermissibly impinged upon by this particular use. A more difficult case, and one that presents a challenge to the law, is the one in which a state's interest *is* impinged upon by another state's use. If the latter use is otherwise legitimate, the law will attempt to accommodate the two states' interests. As we saw in the previous section, the doctrine of limited territorial sovereignty is one theoretical basis for such an accommodation.[394] Is anything added by the notion of a "community" of interest?

The answer to this question depends upon what is meant by the term "community" in this context. We have seen that it does not mean that each riparian state has a veto over any use by other riparians; this would imply a condominium, as noted by Caflisch, which could only be established by treaty. Clearly, while all states sharing an international watercourse system have interests in it, the spatial extent of their interests depends upon the uses they make and their location on the watercourse. Successive and contiguous watercourses should be considered separately in this regard. In the case of successive watercourses, all riparian states do not have interests in the entire system for every kind of use. For example, state A at the headwaters of the Green River may have an interest in utilizing it for production of hydroelectric power. State B at the mouth of the river may have an interest in extractive uses such as irrigation. State A's hydropower interest would not necessarily implicate the lower reaches of the river: A does not utilize the water there for hydropower production and B's activities there would not impact A's use. (State A's use could affect flow patterns, however, which could affect downstream uses.) State B's irrigation interest, on the

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other hand, could implicate the upper reaches of the river: while the point at which B withdraws water is at the mouth of the Green River, the quantity and quality of the water could be affected by upstream uses. In this case, however, the interests of states A and B would probably not come into conflict—unless A's use adversely affected B, for example, by causing evaporative loss of water or prevention (p. 154) of flood-recession agriculture. On the other hand, let us assume that the Green River is navigable up to state A's territory, and that state A has an interest in navigational uses. In this case, A's interest could well implicate the lower reaches of the Green River, because non-navigational uses by state B could affect navigation. Similarly, state B's withdrawals could affect migratory fish stocks, which could in turn have an impact upon state A.

Thus, in the case of successive watercourses, it is possible—depending upon the interests of the states concerned as well as natural factors—that the uses of any riparian state could interfere with the interests of any other riparian state. The interdependence created by this capacity of riparian states to affect each other through their uses of the watercourse may be conceptualized as giving rise to a form of "community." It has been seen that some commentators liken the interests of riparian states to those of co-owners of property, and that this has been taken as the basis of a "community of interest" of riparian states. But even apart from considerations of sovereignty, a "community" based upon possible interdependence falls far short of co-ownership. While a riparian state may have an interest in a successive watercourse that is affected by conduct of another riparian, that is something quite different from the former state's having rights as a co-owner of the watercourse.

Many of these considerations apply as well to contiguous watercourses, but the analogy between states riparian to such watercourses and co-owners seems closer, at least at first blush. Upon examination, however, it is clear that *co*-ownership is not involved even here: each state is the sole "owner" of, or enjoys sovereignty over, that portion of the *bed* of the watercourse that is situated on its side of the boundary; that ownership is not shared. However, even in the case of a contiguous watercourse it cannot properly be said that a riparian state "owns" the *water* on its side of the boundary. That water constantly intermixes with water on the other side, such that principles of "ownership," or sovereignty, cannot apply. They simply do not fit something that is within a state's territory one moment and outside of it the next.

The apparent closeness of the analogy to co-ownership in the case of contiguous watercourses owes much to the illusion of joint possession created by several interrelated phenomena: the fact that the border ordinarily follows the shifting thalweg, and is therefore virtually never demarcated; the fact that for this reason as well as other, practical ones, states do not erect barriers along the border separating the waters on one side from those on the other; and the fact that because there is no barrier, molecules of water migrate from one side of the boundary to the other and back again, so that water that is in state A at one moment may be in state B the next, and may then move back into state A.

Even if states riparian to a contiguous watercourse cannot qualify as co-owners of the watercourse, however, their interests are unquestionably interconnected intimately with one another. It is obvious that any works involving both banks of the river—such as a dam—would have to be the subject of agreement and close cooperation between the co-riparians. The capacity to inflict harm on the opposite bank is also great. For example, flood control works on one bank only could erode the opposite bank; pollution from one side of the river could have immediate effects on the other, and on shared resources such as fish; large scale withdrawals on one side (p. 155) could significantly affect the opposite state; and so on. In short, because the resource is physically and simultaneously shared in the case of a contiguous watercourse, the concept of a "community" is more readily conceptualized than it is in the case of a successive watercourse. There is in this case a direct and intimate interdependence that is characteristic of a "community." These considerations would

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largely apply to a boundary-straddling lake; and many of them would be relevant to a boundary-straddling aquifer, although the transboundary effects would generally not be so immediate. However, the fact that the sharing of water in a contiguous watercourse may be more obvious than in the case of a successive one does not affect the reality of a community of interest. The water is shared, not simultaneously as in the case of a condominium, but in the sense that no one state owns, or enjoys sovereignty, over it. With Hartig, it may be said that by using a shared watercourse in a manner prejudicial to another state, the former in effect asserts rights in the watercourse, the *res*, as a whole, including to those portions in the other state—something that no state would accept absent its express consent, by treaty or otherwise.

The foregoing analysis admits of several preliminary conclusions. First of all, the notion that all riparian states have a community of interest in an international watercourse reinforces the doctrine of limited territorial sovereignty, and thus the principle of equitable and reasonable utilization, rather than in any way contradicting that doctrine. It belies the notion that a state's sovereignty over water that is for the time being in its territory allows it to do whatever it wishes with that water. For the latter idea is based upon the premise that no state other than the state in which water is temporarily situated has a legitimate interest in the water while it is within that state.

In addition to its reinforcing function, the community of interest theory may be seen as having several advantages over that of limited territorial sovereignty. First, the expression conveys a more accurate conception of the watercourse as an indivisible entity and of the relationships of states sharing that entity. While for some it may still be rather awkward to speak of "limited" sovereignty, it is perhaps not so difficult to accept the notion that the exercise of sovereign rights is subject to certain responsibilities.[395] These responsibilities flow from the fact that actions of one state in its territory with regard to a watercourse can affect other states, as well as common resources such as the sea. Thus, even non-riparian states and the international community have interests in international watercourses (which may or may not be legally protected) because of, for example, the potential harm that pollution from land-based sources may cause to the marine environment. A second advantage of the community of interest theory is that it expresses more accurately the normative consequences of the physical fact that a watercourse system is, after all, a unity. It is one thing that is shared by more than one state. All states sharing the watercourse system have an interest in it. Because these interests are all in the same thing—even if they are not identical—they can be described as forming a community. A third (p. 156) advantage of the notion of a community of interest is that it implies collective, or joint action. Whereas the doctrine of limited territorial sovereignty merely connotes unilateral restraint, the concept of a *community* of interest evokes cooperation,[396] shared governance, joint action. Since all riparian states have interests in the watercourse, it follows that they should act jointly in managing it. It seems only logical that such a community would be best expressed in the form of a regime of joint institutional management of the watercourse. Otherwise, co-riparians are left to make their unilateral claims and responses in respect of the watercourse, as they do under any of the other three theories. The notion of "community" implies more than this.

We have seen that commentators have drawn analogies to different private law theories that have features in common with the community of interest doctrine. These theories include joint, or co-ownership (common property), condominium, consortium, and neighborship rights. The problems inherent in linking the community of interest theory with any form of shared ownership have been reviewed above. In fact, shared ownership is simply not a part of the law of international water rights—in the absence of an agreement making it so. Neighborship law, on the other hand, does offer useful analogies.[397] A common law doctrine that has much in common with neighborship law is the law of "nuisance." To complete the circle, the common law doctrine of riparian rights has been

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described as being, in many respects, “a wet version of the law of nuisance.”[398] Nuisance law recognizes that a landowner’s exercise of ownership rights may interfere with a neighboring landowner’s interest in the freedom of exercise of his or her ownership rights. In cases where the exercise of ownership rights conflict, nuisance law limits the freedom of exercise of those rights, seeking to achieve a balance between the right of a landowner to use his or her land and the right of the neighbor to be free from unreasonable interferences with the use of his or her land. In this way, the law of nuisance reconciles a landowner’s freedom of action with the equal rights of neighboring landowners. Similar doctrines are found in other legal systems.[399]

In the case of an international watercourse, the states sharing the watercourse—whether it is a contiguous or a successive one—have more in common with neighboring property owners than with co-owners of a single *res*. They are nevertheless bound together by the watercourse, even if (in the case of a successive watercourse) it does not form a border between them. The watercourse thus forms an extended “neighborhood”—an area consisting of the entire watercourse system.[400] So conceptualized, two states may be watercourse “neighbors” even if they are separated by one or more other states. As we have seen, the interests of these states are interdependent in the sense that for most international watercourses, every riparian state (p. 157) can potentially, in some way and to varying degrees, affect the other riparians.[401] Thus, if a property analogy is to be used, as some commentators would do, riparian states would be more in the position of owners of neighboring property than co-owners of the same property. Their relations would be governed by nuisance, or neighborship law rather than the law of co-ownership, condominiums, or consortiums. And neighborship law, on the international level, has much in common with the theory of community of interest.

Overall Conclusions

The foregoing discussion of the four theories concerning the theoretical basis of the law of the non-navigational uses of international watercourses yields several conclusions. These may be briefly stated as follows: First, there is virtually no support, in either state practice, judicial decisions, or the writings of commentators, for the isolationist and unilateralist theories of absolute territorial sovereignty and absolute territorial integrity. The application to international watercourses of abstract legal principles of international law in general, such as territorial sovereignty, may yield these theories strictly as a matter of superficial logic. But the theories bear little relation to the actual meaning of “sovereignty” in today’s world, the reality of interstate relations with regard to shared natural resources, the way in which similar problems are dealt with in domestic legal systems, or the needs of contemporary international society. Second, the doctrine of limited territorial sovereignty—when the expression is properly understood—appears to come closest of the four theories to describing the actual situation produced by state practice. Riparian states do not exercise their sovereignty wholly without regard to the interests of other riparians, or in such a way as to preclude, or veto, the actions of those states. Finally, the community of interest theory has much to recommend it as a theoretical context for the law of international watercourses. The theory describes well the state of affairs existing among co-riparian states. It has also found expression in agreements establishing joint institutional mechanisms for the protection, management, and development of shared freshwater resources.

Absolutist approaches to the law of the non-navigational uses of international watercourses have also been roundly rejected by every expert body that has examined the question. From the pioneering Madrid Resolution on International Regulations regarding the Use of International Watercourses, adopted by the Institute of International Law at its Madrid session in 1911, to the International Law Association’s famous Helsinki Rules of 1966, and the International Law Commission’s 1994 draft articles, these bodies have strongly

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endorsed approaches (p. 158) emphasizing the avoidance of unreasonable harm to other riparian states and equitable accommodation of competing interests of states sharing international watercourses.[402] They do not stop there, however. Beginning with the 1911 Madrid Resolution, they generally recommend the establishment of "permanent joint commissions" for the avoidance and settlement of differences, as well as for the management of shared freshwater resources.[403]

But the concept of community management can be taken further, and indeed it may have to be in the twenty-first century, as the per capita availability of potable water continues to dwindle.[404] As has been suggested earlier,[405] the time has come to view fresh water in global terms. Uneven distribution of the world's fresh water means that some states, and regions, have more than they need, while others have less—and some of those others, far less. The concept of "equity" or "equitable allocation" should be applied to this problem. It will not be easy. But it seems undeniable that the international community has a vital interest in the global hydrologic cycle, just as it has a vital interest in other great natural systems, such as Earth's climate. The object of this interest of the international community is not limited to the terrestrial components of the hydrologic cycle; it embraces the entire cycle, including its marine and atmospheric components.

The international community has devised a system for sharing the resources of the sea with developing and geographically disadvantaged states.[406] It would seem equally important that it begin the elaboration of a system for the sharing of the world's freshwater resources equitably among all states, especially those that are *hydrologically* disadvantaged. Many of these states suffer not only from the disadvantages of geography, which have placed them in arid regions, but also from such conditions as poverty, expanding populations, and rapid urbanization. In addition to causing hardships domestically in these countries, the shortage of fresh water undermines international stability by giving rise ultimately to such serious problems as famine, unrest, and population flows into urban centers and other countries. These hydrologically disadvantaged countries could be assisted by the international community through a mechanism that would enable them to obtain much-needed fresh water. Legally, these states, as members of the international community, should be regarded as having an interest in the global hydrologic cycle. Conceptually, the international mechanism would assist them in obtaining an equitable share of the water constantly moving through that cycle. As a practical matter, this assistance could (p. 159) take many forms; it would not necessarily entail provision of water, per se.[407] Yet the technology of transferring water is progressing rapidly[408] and certain states have already indicated a willingness to make available water that they are not currently putting to use.[409] The interests of all states in the water moving through the hydrologic cycle would be recognized, and states experiencing severe shortages would be assisted in appropriate ways by the international community, acting through the mechanism it establishes, in securing at least sufficient water to meet basic needs.

The fact that the international community has accepted similar rights in the context of the law of the sea represents a recognition that states should not have to suffer geographically caused hardships alone; rather, other states that are more fortunate may be called upon to share their resources, including transfers of technology and provision of training and expertise, on an equitable basis, with those that are disadvantaged, as matter of international solidarity. The same principles would seem to apply with equal or greater force to the sharing of fresh water.

Implementation of such a right would not be a simple matter, but neither would it be impossible. Experience in the field of the law of the sea—including the considerations that led to the adoption in 1994 of the Implementation Agreement[410]—could, and should, be drawn upon. But even more creative solutions may be called for. For example, would it be out of the question to entrust the presently quiescent Trusteeship Council with the responsibility of supervising the administration of certain critical portions of the hydrologic

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cycle?[411] The Council might perform such functions as determining—or approving determinations by administering powers of—the equitable share of hydrologically disadvantaged states in the water moving through the hydrologic cycle.[412] This could be done on the basis of a number of (p. 160) factors, such as human need, efficiency of use of endogenous water, availability of water, real or virtual,[413] from other countries—even on the same international watercourse—or from icebergs calved by Antarctica, and so on.

Speaking of freedom of passage on the sea, Grotius quotes Libanius as follows:

> God did not bestow all products upon all parts of the earth, but distributed His gifts over different regions, to the end that men might cultivate a social relationship because one would have need of the help of another. And so He called commerce into being, that all men might be able to have common enjoyment of the fruits of earth, no matter where produced.[414]

Among the "gifts" that are "distributed … over different regions," fresh water is perhaps the most precious. Whether by the design of Providence or otherwise, the uneven distribution of fresh water on Earth has brought neighboring nations together in the past; it appears almost inevitable that it will bring more disparate members of the international community together in the future. The notion of a community of interest in freshwater resources may have a significant role to play in this process. It seems only natural.

Footnotes:

1 See generally BERBER, pp. 11–44; SMITH, pp. 7–13; Andrassy, pp. 102–9; Caflisch, pp. 48, *et seq.*; Colliard, *passim*, esp. pp. 358–62; Griffin 1958; Griffin 1959; Huber, pp. 29, *et seq.*, 159, *et seq.*; Lipper, pp. 18, *et seq.*; Sauser-Hall, pp. 506–17; and Van Alstyne, pp. 603–21.

2 Huber.

3 See the sources cited in n. 1 above.

4 In addition to the sources cited in n. 1, above, see generally BERBER, pp. 14, *et seq.*; GODANA, pp. 32–8; LAMMERS, pp. 557–8; Austin; Sauser-Hall, pp. 511–16, and 539–41; Simsarian 1938; Simsarian 1939; and Van Alstyne, pp. 603–5.

5 "[T]he exercise of no right can be unlimited . …" 5 WHITEMAN p. 224, summarizing a statement in the German Memorial in the *German Interests Case* (Merits), PCIJ, Ser. C, 11-I, pp. 136, *et seq*. (1936).

6 See, e.g., BERBER, pp. 14–15; Caflisch, p. 48 (who employs the heading, "Doctrine Harmon ou théorie de la souveraineté territoriale absolue"); and Lipper, p. 20 ("the absolute sovereignty theory … derives its strength, if not its genesis, from an Opinion by Attorney General Harmon of the United States in 1895.").

7 See Ch. 3.

8 For a more detailed treatment, see McCaffrey 1996; and Ch. 4 of the 2nd edn.

9 See the report of the International Water Boundary Comm. of November 25, 1896, indicating with regard to the Rio Grande alone "an aggregate of 1,074 [diversion] canals taken out in [the U.S. states of] Colorado and New Mexico prior to 1880 and 1,528 taken from the river and its tributaries at this date, showing an increase of 454 canals and of 196,000 acres irrigated in the State of Colorado and Territory of New Mexico . … [T]here are no reliable records available showing the increase in the preceding years, but they were doubtless on a more rapidly increasing ratio." Report annexed to letter of November 25,

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1896 from Col. Anson Mills, Comm. to the Secretary of State, reproduced in U.S. APPENDIX, p. 265.

[10] U.S. officials initially laid the problem to drought in the headwaters of the Rio Grande and in the vicinity of El Paso. See Secretary Gresham to Minister Romero, November 1, 1894, Foreign Relations of the United States, p. 397 (1894).

[11] Report of Col. Hatch transmitted to the House of Representatives by the Secretary of War, Ex. Doc. No. 84, 45th Cong., 2d Sess., referred to in “Irrigation of Arid Lands—International Boundary—Mexican Relations,” Report to accompany Bill H.R. 3924 by Mr. Lanham, February 27, 1890, H.R. Rep. No. 490, 51st Cong., 1st Sess., Serial Set 2808–2, p. 2 (1890).

[12] Minister Romero to Secretary Gresham, October 12, 1894, FOREIGN RELATIONS OF THE UNITED STATES, p. 395 (1894). See also 1 MOORE, p. 764.

[13] Concurrent Resolution of April 29, 1890 “concerning the irrigation of arid lands in the valley of the Rio Grande River, the construction of a dam across said river at or near El Paso, Tex., for the storage of its waste waters, and for other purposes,” Con. Rec.—Senate, April 29, 1890, p. 3963, Con. Rec.—House, April 29, 1890, p. 3977; U.S. Appendix, p. 145.

[14] Mr. Guarneros to Mr. Romero, October 4, 1894, FOREIGN RELATIONS OF THE UNITED STATES, pp. 395–6 (1894).

[15] Minister Romero to Secretary Gresham, October 12, 1894, FOREIGN RELATIONS OF THE UNITED STATES, p. 395 (1894). See also 1 MOORE, p. 764.

[16] Ibid.

[17] President G. Cleveland, Annual Message, December 3, 1894, 1 MOORE, p. 764.

[18] Matías Romero, Mexican Minister, to Richard Olney, Secretary of State, October 21, 1895, U.S. APPENDIX, pp. 200, 202.

[19] February 2, 1848, 1 MALLOY, p. 1107.

[20] Ibid.

[21] At the time, the State Department did not have its own legal adviser; the Department of Justice performed that function. See U.S. Department of State, PRINCIPAL OFFICERS OF THE DEPARTMENT OF STATE AND UNITED STATES CHIEFS OF MISSION, 1778–1990 (U.S. DEPT. OF STATE, WASHINGTON, D.C. 1991).

[22] 21 Op. Atty. Gen., pp. 281–3 (1898) (quoting, remarkably, from an opinion of Chief Justice Marshall of the U.S. Supreme Court in a sovereign immunity case).

[23] See, e.g., Johnson, p. 168: “Briefly, this doctrine [the Harmon Doctrine] suggests that a sovereign nation can do as it pleases with the portion of an international river found within its borders, regardless of the impact on the downstream nation.”

[24] SMITH, p. 42.

[25] Signed at Washington on May 21, 1906, 201 CTS p. 225 (1980).

[26] See generally U.S. Bureau of Reclamation, Elephant Butte Dam and Spillway, New Mexico, available at <https://www.nps.gov/nr/travel/ReclamationDamsIrrigationProjectsAndPowerplants/Elephant_Butte_Dam_and_Spillway.html>.

[27] E.g., the Colorado River salinity problem, caused by diversions and irrigation in the southwestern United States, a problem which has persisted despite the 1973 Agreement concerning the Permanent and Definitive Solution to the International Problem of the Salinity of the Colorado River, 24 U.S.T. 1968, reprinted in 12 ILM 1105 (1973). This problem is discussed in Ch. 7 section F.1.b. While the United States is sending salty water to Mexico, Mexico is sending sewage to the United States See, e.g., Metzner; *California in*

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Brief: Emergency Declared on Sewage Discharge, L.A. TIMES, March 16, 1991, p. A23; P. McDonnell, *U.S., Mexico Sign Pact on Sewage Plant: Border Agreement Calls for Building $200 Million Facility to Handle Sewage Flowing from Tijuana into San Diego*, L.A. TIMES, July 3, 1990, p. A25; W. Branigan, *Pollution Under Scrutiny at U.S.-Mexican Border*, WASHINGTON POST, October 24, 1989, p. A27; and Gary Lee, *Tijuana River Cleanup on Track, Hill Is Told*, WASHINGTON POST, April 14, 1994, p. A3. But in a major development, on November 20, 2012 the two countries adopted Minute 319 to their 1944 Treaty, which inter alia permits Mexico to store a portion of its share of Colorado River Water in U.S. reservoirs (the so-called "program of Intentionally Created Mexican Allocation (ICMA)"). Minute 319, available at <http://ibwc.state.gov/Files/Minutes/Minute_319.pdf>.

28 Research has revealed no assertions of the doctrine of absolute sovereignty in respect of purely contiguous watercourses. By this is meant that even though contiguous states often claim "equal rights" or "half the water", they have not asserted a right to dispose of all of the waters of contiguous watercourses. See, e.g., the provisions of treaties in Annex 1 of McCaffrey, Second Report, p. 135. Of course, this statement would not apply to situations in which the boundary between the contiguous states followed one of the banks of the watercourse, rather than the median line or thalweg, as is the case for the San Juan River, whose right bank forms the border between Nicaragua and Costa Rica under the 1858 treaty between the countries. See the discussion of the three cases between these two states involving the San Juan in Ch. 6. See also Lipper, at p. 23.

29 419 UNTS 125, LEGISLATIVE TEXTS, Treaty No. 98, p. 300.

30 The late Judge Richard Baxter has written that the World Bank "was not a disinterested third force but one of the parties to what were actually tripartite negotiations, for it was known that it would have to be a participant in any program of works and of financing which might be drawn up." Baxter, p. 477.

31 Baxter, p. 453 (footnotes omitted). This may be compared with the comments of S.M. Sikri of India (advocate general of the Punjab) upon the Report of the Committee on the Uses of the Waters of International Rivers of the International Law Association (ILA), presented at the ILA's Dubrovnik Conference in 1956. While members of the ILA act in their individual capacities, Mr. Sikri's position tracked that of India in that it denied any legal obligation of a state with regard to the waters of an international watercourse while in its territory. ILA DUBROVNIK REPORT, p. 216, at pp. 216–18. This view was rejected by the ILA, though there were those on the Committee who would not have gone so far as the Committee's Report. See the summaries of statements of Committee members in ibid, pp. 216–41, reflecting a wide range of views. In the end, the two participants from India (Mr. Sikri and Mr. M.C. Setalvad, Attorney-General, India), as well as the member from Pakistan, Mr. Qadir, supported a revised Resolution, which was adopted with five abstentions. Ibid, pp. 234 and 241. The Resolution finally adopted appears at pp. x and 241 of the DUBROVNIK REPORT. The position taken by the ILA at the Dubrovnik Conference is also discussed in Griffin 1958, p. 87.

32 As quoted in Baxter, p. 456.

33 Note verbale, Ministry of Foreign Affairs and Commonwealth Relations, Government of Pakistan, to High Commissioner for India in Pakistan, June 16, 1949, in CANAL WATERS DISPUTE, p. 163, as quoted in Baxter, p. 454. See also the position taken by the Pakistani member of the ILA's Committee on the Use of the Waters of International Rivers, Mr. Manzur Qadir, at the Dubrovnik Conference, DUBROVNIK REPORT, pp. 231–3: "water does not belong exclusively to any State, but … is available to all of them for such beneficial uses as do not interfere with the beneficial uses of it by others." Ibid, p. 232.

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[34] Baxter, p. 454, quoting from Government of Pakistan, CANAL WATERS DISPUTE.

[35] Art. 11, para. (1)(b) of the Indus Waters Treaty provides as follows:

> Nothing contained in this Treaty … shall be construed as constituting a recognition or waiver … of any rights or claims whatsoever of either of the Parties other than those rights or claims which are expressly recognized or waived in this Treaty.

Art. 11, para. 2 provides as follows:

> Nothing in this Treaty shall be construed by the Parties as in any way establishing any general principle of law or any precedent.

Indus Waters Treaty, art. 11, LEGISLATIVE TEXTS, at p. 312. However, as Baxter has written in reference to this article, "a provision of this nature cannot keep others from looking to the settlement as a precedent or from deriving what general principles they choose from the terms agreed upon." Baxter, p. 476.

[36] That the Indus Waters Treaty actually effected an equitable apportionment or, to put it another way, provided for equitable utilization, of the waters of the Indus System, is a conclusion that has been reached by a number of commentators. See, e.g., Schwebel 1982, p. 80, para. 65; and Baxter, p. 476.

[37] Exchange of Notes of February 13 and April 15, 1950, as quoted in LAMMERS, at p. 311, citing M. Qadir, "Note on the Uses of the Waters of International Rivers," in ILA DUBROVNIK REPORT, p. 12.

[38] This project and the resulting controversy are discussed further in Ch. 7, section B.2, below. Lammers offers the following description:

> The purpose of this project was to divert part of the Ganges waters through a feeder canal into the Bhagirathi-Hooghly river - in fact a branch of the Ganges in India - in order to put an end to the silting of that river and of the port of Calcutta which had been the result of inadequate headwater supply . …
>
> Pakistan, and since 1971, Bangladesh, has vigorously opposed the construction of the dam at Farakka. While the Ganges has an abundant flow in the monsoon period …, it has a very small flow in the remaining dry season . … It was the further reduction of the flow of the Ganges in the dry season brought about by the Farakka dam which constituted the core of the problem.

LAMMERS, pp. 312–13 (footnote omitted).

[39] UN GAOR, 23rd Sess., 1682nd Meeting, p. 19; and ibid, 31st Sess., Special Political Committee, 21st Meeting, p. 5. See LAMMERS, pp. 313 and 318, n. 4.

[40] UN GAOR, 24th Sess., 1776th Meeting, p. 26; LAMMERS, p. 313.

[41] UN GAOR, 31st Sess., Special Political Committee, 21st Meeting, pp. 2–3; LAMMERS, pp. 317 and 318.

[42] UN GAOR, 31st Sess., Special Political Committee, 27th Meeting, p. 2; and ibid, 80th Meeting of the General Assembly, pp. 1236–7.

[43] Text reproduced in 17 ILM p. 103 (1978) (entered into force for a period of five years on November 5, 1977). While this agreement has been extended a number of times, to the knowledge of the author it never became permanent. According to a Radio Bangladesh report, the last Agreement on Sharing of the Ganges Waters expired in 1988. "After this,

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Bangladesh did not receive any water from the Ganges River.” BBC Summary of World Broadcasts, May 19, 1996.

[44] Treaty on Sharing of the Ganges Waters at Farakka, December 12, 1996, arts. I and XII. 36 ILM 519 (1997).

[45] According to one commentator, “it has become apparent from the Ganges waters controversy … that India has eventually fully abandoned the Harmon doctrine, a doctrine which it still appeared to favour in its dealings with Pakistan in the Indus waters controversy and the early phase of the Ganges waters question.” LAMMERS, p. 319.

[46] Austrian Statement of Principles Regarding Successive Rivers, reported in ECE Hydroelectric Study, p. 51. No date is given for this Statement, but it presumably dates from the immediate post-Second World War period.

[47] Ibid.

[48] Convention between Yugoslavia and Austria concerning Water Economy Questions relating to the Drava, May 25, 1954, preamble, 277 UNTS 128, LEGISLATIVE TEXTS, Treaty No. 144, p. 513. In the treaty Austria agreed, inter alia, to discuss in advance with Yugoslavia any Austrian plans for new installations in the Drava basin that “might affect the Drava river regime to the detriment of Yugoslavia” (art. 4). In addition, the parties established the Joint Drava Commission “for the exchange of information and the achievement of agreement on all questions of common interest relating to the water economy of the Drava” (art. 5).

[49] Seidl-Hohenveldern, p. 195.

[50] See, e.g., HARTIG.

[51] Edmund Hartig, “Ein neuer Ausgangspunkt für internationale wasserrechtliche Regelungen: das Kohärenzprinzip,” WASSER- UND ENERGIEWIRTSCHAFT, at p. 8 (1958). See also Seidl-Hohenveldern, pp. 192 and 195.

[52] Seidl-Hohenveldern, p. 192.

[53] See section D, below, on the theory of Community of Interest.

[54] Lipper, p. 21.

[55] Decision of March 1, 1913, reported in HARTIG, pp. 13–18. For a translation, see Bousek.

[56] Bousek, p. 658.

[57] See in particular two decisions of the Supreme Administrative Court of Austria (*Verwaltungsgerichtshof*). The first, of May 30, 1969 concerned complaints of German parties regarding a proposed lengthening of the Salzburg Airport runway. No. 233/69 and 314/69, amtl. Sammlung (1969) No. 7528 (A) 1969 p. 264. For a comment on this case see Schreuer. The second, of January 29, 1991, concerned a complaint of the Republic of Slovenia against a decision of a lower Austrian administrative tribunal denying standing to Slovenia in a proceeding concerning a water permit. Zl. 90/07/0174.

[58] Bousek, p. 659.

[59] Ibid, p. 660. The tribunal explained that when the Austrian authorities “summon for the discussion of measures regarding water rights to be enforced by them in Austrian territory” interested parties from a foreign country, “they do not thereby grant them rights not legally provided for, but merely secure from those invited, as *persons able to give information*, the necessary enlightenment for the exercise of their discretion.” Ibid (emphasis in original).

[60] Ibid.

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[61] Ibid, p. 655.

[62] See SMITH, pp. 68–70. See also Caflisch, p. 49, in n. 69.

[63] SMITH, p. 70. The rate of flow at the point where the river passed from Chile into Bolivia was some 50,000 liters per second; the diversion, as noted, would have been a relatively minor 3,000 liters per second.

[64] Glassner, p. 195. Glassner also discusses the Rio Mauri dispute, at pp. 202–5. See also LAMMERS, pp. 289–90, and the sources cited in n. 1, p. 290.

[65] Glassner, p. 198.

[66] Act of Santiago concerning Hydrologic Basins of June 26, 1971, text in 1974 Y.B. INT'L L. COMM'N, vol. 1, pt. 2, p. 324.

[67] Ibid, para. 1.

[68] GODANA, p. 36, citing Okidi 1980, p. 440.

[69] Agreement between the United Arab Republic and the Republic of Sudan for the Full Utilization of the Nile Waters, November 8, 1959, LEGISLATIVE TEXTS, Treaty No. 34, p. 143.

[70] Controversies over the Nile are discussed in Ch. 7 section A.

[71] According to official Egyptian estimates, the Blue Nile contributes four-sevenths and the Atbara, another Nile tributary originating in Ethiopia, one-seventh, of Nile waters. Caponera 1991.

[72] As quoted in Okidi 1980, p. 440.

[73] As summarized by Okidi, ibid.

[74] Ibid.

[75] To the same effect is the famous Principle 21 of the 1972 Stockholm Declaration on the Human Environment: "States have … the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction." UN Doc. A/CONF.48/14, p. 2. This principle, which is widely believed to express customary international law, was repeated in Principle 2 of the 1992 Rio Declaration on Environment and Development, 31 ILM 874 (1992), the only change being the insertion of the words "and developmental" after "environmental." A like principle was invoked by the International Court of Justice in its advisory opinion on the Legality of the Threat or Use of Nuclear Weapons, 1996 ICJ pp. 241–2, para. 29; and in the case concerning the *Gabčíkovo-Nagymaros Project* (Hungary/ Slovakia), 1997 ICJ 7, p. 41, para. 53.

[76] See Ch. 7 section A.

[77] Text available at <http://www.internationalwaterlaw.org/documents/regionaldocs/Nile_River_Basin_Cooperative_Framework_2010.pdf>.

[78] BERBER, pp. 15–19.

[79] 1 EUROPÄISCHES VÖLKERRECHT, p. 128 (1821).

[80] DAS EUROPÄISCHE VÖLKERRECHT DER GEGENWART, p. 150 (1888).

[81] *Ein Beitrag zum internationalen Wasserrecht*, 7 ZEITSCHRIFT FÜR VÖLKERRECHT, p. 42 (1913).

[82] The International Joint Commission between the United States and Canada, 22 AJIL p. 292 (1928).

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[83] WESEN UND UMFANG DES STAATSGEBIETS, diss., p. 86 (1934).

[84] THE DIVERSION OF INTERNATIONAL WATERS, p. 105 (1939).

[85] INTERNATIONAL LAW CHIEFLY AS INTERPRETED AND APPLIED BY THE UNITED STATES, pp. 565, *et seq*. (1945).

[86] INTERNATIONAL LAW, p. 391 (1948).

[87] THE LAW OF NATIONS, p. 274 (1952).

[88] Seidl-Hohenveldern, p. 191.

[89] Huber was a judge on the Permanent Court of International Justice and former president of the Court when he served as arbitrator in the *Island of Palmas* case.

[90] *Island of Palmas* case (Netherlands, USA), award of April 4, 1928, 2 R.I.A.A. 829.

[91] Ibid, p. 839.

[92] *United States v Canada*, 1941, 2 R,I,A,A, p. 1905 (1949). the arbitral tribunal concluded that: "under principles of international law, … no State has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence." The case is discussed in section B.1, above.

[93] Judgment of April 9, 1949, 1949 ICJ p. 4. There the ICJ referred to "every State's obligation not to allow knowingly its territory to be used for acts contrary to the rights of other States." Ibid., at p. 22.

[94] Stockholm, June 16, 1972, U.N. Doc. A/Conf.48/14/Rev 1, 11 ILM 1416 (1972). Principle 21 reads:

> States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.

[95] SMITH, pp. 4–13. For example: "experience shows that the attempt to deduce rules of law from abstract principles cannot produce a detailed system which meets the actual needs of society . … Unfortunately the problem of waterways furnishes an excellent example of how the development of an acceptable body of positive rules may be actively impeded by the *a priori* reasoning of the doctrinaire . … At bottom this kind of dogmatism is only a form of intellectual laziness. The doctrinaire is one who seeks refuge in a formula from the fatigue of studying the infinite complexity of facts." Ibid, pp. 6, 7, 13.

[96] ECE Hydroelectric Study.

[97] Ibid, p. 52. According to the ECE Hydroelectric Study, these "data" include a failure to "clearly differentiate between public international law and private or administrative international law," and Bousek's reliance on the 1909 Boundary Waters Treaty between the United States and Canada, which such other authors as Schulthess and Oppenheim use to support the contrary argument. Ibid, p. 53.

[98] This fact is stated boldly, directly beneath the title of the paper.

[99] See generally Bousek.

[100] Ibid, pp. 41–2.

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[101] Ibid, p. 44.

[102] See Ch. 2 section B.4.

[103] SIMSARIAN, p. 106.

[104] Ibid, p. 105.

[105] BERBER, p. 17.

[106] HYDE, p. 565.

[107] Ibid, p. 566.

[108] Ibid, note 3. See also Hyde's discussion of this and other Supreme Court apportionment cases, ibid, pp. 566–71.

[109] *Kansas v Colorado*, 206 U.S. p. 46, 27 S.Ct. p. 655 (1907).

[110] HYDE, p. 566.

[111] Ibid, pp. 565, *et seq*.

[112] *United States v Canada*, 1941, 2 UNRIAA 1905 (1949).

[113] Andrassy, p. 120.

[114] FENWICK, pp. 464–6; BRIGGS, p. 277.

[115] BRIGGS, p. 277. While Briggs states, at p. 274, that "[n]o general principle of international law prevents a riparian State from … polluting [the] waters" of "those portions of international rivers which are within the national territory" of a state, he cites no authority for this proposition. It appears to be deduced from his more general position that portions of international rivers that are within a state's territory "are subject to the exclusive control of the territorial sovereign." Ibid.

[116] Ibid.

[117] "The life of the law has not been logic: it has been experience." Oliver Wendell Holmes, THE COMMON LAW, p. 1 (Little, Brown & Co., Boston 1951, reproduction of 1881 edn.). This same idea is echoed in SMITH, pp. 4–13.

[118] 1 OPPENHEIM 1905, p. 175.

[119] Based upon his survey of state practice, Smith observes that in view of "how tenacious states have been of their sovereign rights, it is surprising to find how little reliance has been placed upon the doctrine of absolute territorial sovereignty in the disputes which we have considered." SMITH, p. 145.

[120] Ibid, p. 145.

[121] Griffin 1958, quoting from 1 SCHWARZENBERGER, p. 13.

[122] Griffin 1958, p. 9.

[123] Ibid, pp. 9–10.

[124] Signed at Washington on May 21, 1906, 201 CTS p. 225 (1980).

[125] SMITH, p. 146.

[126] See, e.g., the statement of Frank Clayton, counsel for the United States section of the International Boundary Commission, U.S.-Mexico, before the U.S. Senate Committee on Foreign Relations in 1945: "Attorney-General Harmon's opinion has never been followed either by the United States or by any other country of which I am aware." U.S. Senate, HEARINGS BEFORE THE COMMITTEE ON FOREIGN RELATIONS ON TREATY WITH MEXICO RELATING TO THE UTILIZATION OF THE WATERS OF CERTAIN RIVERS, 79 Cong., 1st Sess., part 5, p. 97 (1945). See also the Memorandum of the U.S. Department of State prepared in the context of the controversy over the Columbia River with Canada (in which the United States was in a

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downstream position), Griffin 1958, pp. 59–62. See generally McCaffrey, Second Report, paras. 79–91, pp. 105–10.

127 BERBER, p. 14.

128 See generally BERBER, pp. 19–22; Caflisch, pp. 51–4; ECE Hydroelectric Study, pp. 53–4; LAMMERS, pp. 562–3; Lipper, pp. 18–20; and Sauser-Hall, pp. 541–2. Cf. Van Alstyne, pp. 605–16, discussing the theory that "no state can use the water of a communal river in a manner which substantially affects other states without their prior consent."

129 Signed at Geneva, December 9, 1923, 36 LNTS p. 77; LEGISLATIVE TEXTS, Treaty No. 2, p. 91. The Convention did enter into force on June 30, 1925, but after the deposit of only the third instrument of ratification, in conformity with art. 18. Seventeen states signed the Convention; as of 1974, there were eleven parties to it. Three of the parties are islands; only two of the parties, Austria and Hungary, share the same international watercourse. Even their adherence may have been largely for historical, rather than substantive reasons.

130 Caflisch, pp. 44 and 51. However, while the initial draft of the Convention provided for compulsory agreement between the states concerned, this idea was rejected as being incompatible with state sovereignty. 1974 Y.B. INT'L L. COMM'N, vol. 2, pt. 2, p. 58. Art. 1 of the Convention in fact provides that "The present Convention in no way affects the right belonging to each State, within the limits of international law, to carry out on its own territory any operations for the development of hydraulic power which it may consider desirable." LEGISLATIVE TEXTS, at p. 92 (transl. from SMITH, p. 196). In fact, for Smith, "[i]t is obvious that this Convention has been drawn in terms which impose no positive international obligations of any kind . …" SMITH, p. 199.

131 *United States v Canada*, 1941, 2 UNRIAA 1905 (1949).

132 Memorandum in Relation to the Arbitration of the Trail Smelter Case, United States and Canada, August 10, 1937, prepared by Green H. Hackworth, Legal Adviser, for Swagar Sherley, Agent of the United States, 5 WHITEMAN, p. 183. Cf. the position advanced by Australia in the *Nuclear Tests* cases, that they had "decisional sovereignty" over whether nuclear fallout could be deposited on their territories, irrespective of whether they could prove that it actually caused harm. ICJ, PLEADINGS, *Nuclear Tests* (Aus. v Fr.), p. 525 (1978).

133 7 Cranch [U.S. Supreme Court Reports] p. 116, at p. 136 (1812).

134 Ibid. The tribunal in fact quoted Professor Eagleton approvingly to the effect that: "A State owes at all times a duty to protect other States against injurious acts by individuals from within its jurisdiction." 3 UNRIAA at p. 1963.

135 *Lake Lanoux Arbitration* (Fr. V. Spain), award of November 16, 1957, 12 R.I.A.A. p. 281 (French). English translations in 24 ILR p. 101 (1961); 53 AJIL p. 156 (1959); and 1974 Y.B. INT'L L. COMM'N, vol. 2, p. t, p. 194 (1976). The quote is from the latter source, at p. 197.

136 Exchange of Notes between the United Kingdom and Egypt in regard to the Use of the Waters of the River Nile for Irrigation Purposes, May 7, 1929, No. 1, para. 2, LEGISLATIVE TEXTS, Treaty No. 7, p. 100. The British government, acting for Sudan, recognized these rights, which it regarded "as a fundamental principle of British policy . …" Ibid, No. 2, para. 4. See also Report of the Nile Commission, 1925, annexed to the Egyptian note, ibid, p. 102, para. 22, at p. 104. This and subsequent treaties concerning the Nile are discussed further in Ch. 7 section A.

137 See, e.g., the report of the Permanent Joint Technical Commission for Nile Waters, in INTERNATIONAL RIVER AND LAKE BASINS, p. 158, referring to the Agreement for the Full Utilization of the Nile Waters between Sudan and the United Arab Republic of November 8,

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1959, Legislative Texts, Treaty No. 34, p. 143 (which actually uses the expression “established right” in art. I(1)).

[138] *Country Report, Egypt*, paper presented at the Interregional Meeting of International River Organizations held at Dakar, May 5–14, 1981, para. 3, as quoted in Godana, p. 39. This paper is not, however, contained in the meeting’s published proceedings, International River and Lake Basins.

[139] Ibid, para. 4, as quoted in Godana, p. 39.

[140] See Exchange of Notes constituting an Agreement between the United Kingdom and Egypt regarding the Construction of the Owen Falls Dam, May 30 and 31, 1949, Legislative Texts, Treaty No. 9, p. 108. The agreement provides that any action at Owen Falls would “not entail any prejudice to the interests of Egypt in accordance with the Nile Waters agreement of 1929 . …” Ibid, para. 5. The dam was completed in 1954. See Garretson, p. 272, and Ch. 8 section A.

[141] Exchange of Notes between the United Kingdom and Egypt regarding the Construction of the Owen Falls Dam in Uganda, July 16, 1952 and January 5, 1953, paras. (ii) and (iii), Legislative Texts, Treaty No. 12, p. 114, at p. 115. The amount of compensation Egypt agreed to pay was £980,000. Ibid, para. (iii). See generally Garretson, p. 272.

[142] See Ch. 7 section A. The CFA is available at <http://www.internationalwaterlaw.org/documents/regionaldocs/Nile_River_Basin_Cooperative_Framework_2010.pdf>.

[143] See generally Salman 2016b, p. 512.

[144] See Gulhati, pp. 56–62.

[145] See Godana, p. 39.

[146] Telegram of April 15, 1948, as quoted in Baxter, p. 451.

[147] Note verbale, Ministry of Foreign Affairs and Commonwealth Relations, Government of Pakistan, to High Commissioner for India in Pakistan, June 16, 1949, as referred to in Baxter, p. 454. Such a conference was held two months later. Ibid.

[148] In fact, as discussed in Ch. 9, equitable apportionment is a position usually advanced by upstream, rather than downstream states.

[149] Lake Lanoux Arbitration (*France v Spain*), 12 UNRIAA 281, 62 RGDIP 79 (1958), both in the original French. For English translations, see 24 ILR 101 (1961), 53 AJIL 156 (1959), and 1974 Y.B. Int’l L. Comm’n, vol. 2, pt. 2, p. 194 (1976). This case is discussed in greater detail in Ch. 6.

[150] Caflisch, pp. 51–52, who states that the theory has been invoked by certain downstream states, “surtout, l’Espagne dans l’affaire du *Lac Lanoux* . …”

[151] The quotation, which is the tribunal’s interpretation of Spain’s position, is from the translation of the award in 1974 Y.B. Int’l L. Comm’n, vol. 2, pt. 2, at p. 196.

[152] Ibid.

[153] Ibid.

[154] Ibid, p. 197 (emphasis in original). The version in ILR translates “préalable” more aptly as “prior”. [1957] ILR p. 101, at p. 130 (1961).

[155] 1974 Y.B. Int’l L. Comm’n, vol. 2, pt. 2, p. 197.

[156] See, e.g., Caflisch, p. 51.

[157] See section A.3, above.

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[158] SMITH, p. 69, who states that Bolivia “appealed to the well-known texts of Roman law and to their recognition in the French law of 1792 . …” The latter law declared, inter alia, “that the stream of a river is the common, inalienable property of all the countries which it bounds or traverses . …” KAECKENBEECK, p. 32. However, that law relied on the Law of Nature (§ 16) and concerned opening the Scheldt River to navigation rather than non-navigational uses. Ibid.

[159] See SMITH, pp. 15–20, explaining that “the ancient rules governing riparian rights have everywhere proved inadequate by themselves to meet the economic conditions of modern times,” leading to their amendment to “protect the wider interests of the whole community . … Thus the law gradually moves towards the true conception of each river basin as an indivisible physical unit . …” Ibid, p. 20.

[160] See section A.3, above. See generally Glassner. See also LAMMERS, pp. 289–90.

[161] Declaration No. 72 of the Seventh Pan-American Conference, December 24, 1933, “Declaration on Industrial and Agricultural Use of International Rivers,” para. 2, text reproduced in 1974 Y.B. INT’L L. COMM’N, vol. 2, pt. 2, p. 212. For its part, Chile maintained that the Declaration only required the prior consent Bolivia insisted upon if the project would cause damage in the downstream state. In Chile’s view, Bolivia had provided no proof of such prospective damage. LAMMERS, p. 289. For a discussion of the Montevideo Declaration see LAMMERS, pp. 290–2.

[162] As quoted in Glassner, at p. 193.

[163] Ibid, pp. 198, 199.

[164] Indeed, Bolivia has recently sued Chile over such access, unsuccessfully. See Obligation to Negotiate Access to the Pacific Ocean (Bolivia v. Chile), Judgment, 1 October 2018, General List No. 153 <http://www.icj-cij.org> accessed 29 January 2019. As discussed in Ch. 6, Chile has also sued Bolivia in Dispute over the Status and Use of the Waters of the Silala (Chile v. Bolivia), filed on June 6, 2016. Both cases are The latter case is pending at this writing. Information is available on the ICJ’s website, <http://www.icj-cij.org>.

[165] See BERBER, pp. 19–22.

[166] BERBER, at pp. 19–22, refers to five authors as supporting the doctrine of absolute territorial integrity.

[167] DAS BADISCHE WASSERRECHT, p. 237 (1902).

[168] Huber, p. 160.

[169] 2 WÖRTERBUCH DES DEUTSCHEN STAATS- UND VERWALTUNGSRECHTS, p. 708 (1913).

[170] Reid, p. 18.

[171] 1 OPPENHEIM 8th edn., p. 475.

[172] Huber, in fact, was writing about a controversy between the neighboring Swiss cantons of Zurich and Schaffhausen, the border between which is defined by the Rhine. Nevertheless, he is criticized heavily by von Bar, who states that Huber’s conclusion is “obviously unjust,” and “could never be sustained, as it admits that a simple factual situation can create a right.” L’exploitation industrielle des cours d’eaux internationaux, 17 RGDIP, pp. 281, *et seq.*, as quoted in BERBER at p. 20.

[173] Huber, p. 160 (author’s transl.).

[174] Ibid, p. 164, para. 4.

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[175] Ibid, p. 214, para. IV. Neighborship law, and Huber's views thereon, are discussed further below, in section C.2.

[176] To this effect, see the award in the *Lake Lanoux* arbitration of November 16, 1957, 12 UNRIAA 281; 62 RGDIP;79 (1958); 53 AJIL 156 (1959); [1957] ILR 101 (1961); and 1974 Y.B. INT'L L. COMM'N, vol. 2, pt. 2, p. 194 (1976). The case is discussed above, and in Ch. 6 section A.2.a.

[177] Andrassy, pp. 119–20.

[178] OPPENHEIM 8th edn., p. 475.

[179] OPPENHEIM, pp. 584–5 (footnotes omitted).

[180] This is true of both Schenkel, who wrote in 1902, and Fleischmann, whose work appeared in 1913. Schenkel may actually belong in the group of authors who do not in fact support the principle, since he goes only so far as to state that international law supports "only the … negative principle of not causing injury by artificially altering the natural conditions of the flow . …" "Injury" is, of course, a relative concept, and if used in its legal sense could well allow significant development of water resources by an upstream state.

[181] This is the case with Reid, whose chief preoccupation is that "uncontrolled diversion could lead to the ruin of any industry which relies on [hydroelectric] energy . …" Reid, p. 18. "Uncontrolled diversion" by an upstream state would be countenanced only by the doctrine of absolute territorial sovereignty; but such utilization of an international watercourse would run afoul not only of the theory under consideration, but also of those of limited territorial sovereignty and community of interest, to be discussed below. Thus, Reid could be taken to support either of the latter theories as well as the former one.

[182] SMITH, p. 144, referring in particular to absolute territorial sovereignty.

[183] "Wherever diversion or other interferences with rivers have caused material injury the states concerned have invariably protested, and usually with success, but there has been no attempt in any international discussion to assert any claim of an absolute right to a particular volume of water apart from material injury." SMITH, pp. 147–8.

[184] Smith concludes that "a negative answer" must be given to the question whether "international practice afford[s] any support for the theory that states are entitled to assert, as against each other, the old Roman or English law doctrine of strict riparian rights …, at least in so far as analogy with the old law would give each riparian owner a right of veto upon the activities of his neighbour." Ibid, p. 147.

[185] Nobel Prize-winning economist and lawyer Ronald Coase has pointed out that in cases involving competing uses of property or shared resources, to avoid harm to one user is to inflict harm on the other. In the context of international watercourses, protecting a downstream state from harm by preventing the construction of a dam in an upstream state actually inflicts harm on the upstream state. See McCaffrey 1990, pp. 231–2; and McCaffrey 1994b, p. 118.

[186] See LAMMERS, p. 570: "it must be seriously doubted that the principle as formulated is of Roman origin at all."

[187] See, e.g., *Morgan v High Penn Oil Co*, 238 N.C. 185, 77 S.E.2d 682 (1953). See also the early decision in *William Aldred's Case*, 9 Co. Rep. 57b, 77 Eng. Rep. 816 (K.B. 1611).

[188] W. Rogers, WINFIELD AND JOLOWICZ ON TORT, p. 318 (10th edn., London, Sweet & Maxwell 1975).

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[189] *The Auburn & Cato Plank Rd. Co v Douglass*, 9 N.Y. 444 (1854). To the same effect, see 2 JOHN AUSTIN'S JURISPRUDENCE, pp. 795, 829 (Robert Campbell 3rd edn. 1869): "A party may damage the property of another where the law permits; and he may not where the law prohibits; so that the maxim can never be applied till the law is ascertained; and, when it is, the maxim is superfluous."

[190] OPPENHEIM 8th edn., pp. 345–7.

[191] IIL Salzburg Resolution, p. 381.

[192] See Ch. 10, below.

[193] In 1994, the International Law Commission of the United Nations adopted its draft articles on the Law of the Non-Navigational Uses of International Watercourses on second reading. 1994 Y.B. INT'L L. COMM'N, p. 89. Art. 7 of that draft is entitled "Obligation not to cause significant harm." It embodies what is, in essence, a "*sic-utere*" principle, but one that is qualified by making the obligation not to cause harm one of due diligence. As discussed in Ch. 8, the UN Convention on International Watercourses adopted in 1997, Annex I, is based on the ILC's draft. The Convention's version of art. 7 differs somewhat from the ILC's, but the obligation remains a flexible one. See also Lammers, who concludes that if a state is using its best efforts to avoid or reduce harm caused to another state, the latter does "not appear to be much inclined to hold [the former] internationally responsible . …" LAMMERS, p. 349.

[194] See generally BERBER, pp. 25, *et seq.*; Caflisch, pp. 55, *et seq.*; and Lipper, pp. 23, *et seq.*

[195] The doctrine of "limited sovereignty", also known as the "Brezhnev Doctrine," was proclaimed in a statement justifying the Soviet invasion of Czechoslovakia on 25 September 1968. See N.Y. TIMES, September 27, 1968; 7 ILM 1323 (1968).

[196] Accord, BERBER, p. 25; Caflisch, p. 55; Lipper, pp. 24–5, 38.

[197] See, e.g., Caflisch, p. 55; BERBER, pp. 12–14; 25; SMITH, p. 151. Lammers concludes on the basis of an analysis of state conduct and statements that "there exists a principle of international law … to the effect that States may not undertake or permit within their territory activities which cause or are likely to cause substantial … harm within the territory of other States through a change in the physical conditions otherwise prevailing in those other States." LAMMERS, pp. 381 (for the "expressed general conviction of states") and 382 (for the conduct of states).

[198] SMITH, p. 145, speaking of national legal systems. See that author's survey of "The Development of Private Law," at pp. 14–23. See also BERBER, chs. 7, p. 168 ("Municipal Law as a Source of the Law") and 8, p. 185 ("General Principles of Law as a Source of the Law").

[199] See the survey of state practice in LAMMERS, pp. 165–341, and especially his conclusions, at pp. 381–5; the survey of "Governmental Pronouncements" in Lipper, pp. 25–8, and that of treaties, conventions, and declarations in ibid, pp. 33–5; and the survey of treaties and "Positions taken by States in diplomatic exchanges" in McCaffrey, Second Report, pp. 103–5 and 110–13, respectively. See also the survey of treaty provisions in ibid, annexes I and II, pp. 135–8.

[200] See the surveys of commentators in BERBER, pp. 25–40, Lipper, pp. 35–6, and McCaffrey, Second Report, pp. 127–9; and those of studies by international non-governmental organizations in Lipper, pp. 36–8, and McCaffrey, Second Report, pp. 125–7.

[201] See the decisions reviewed in Lipper, pp. 28–33, and McCaffrey, Second Report, pp. 113–22. See also recent decisions of the International Court, such as *Gabčíkovo-Nagymaros*

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Project (Hungary/Slovakia), 1997 ICJ 7; and *Pulp Mills on the River Uruguay* (Argentina v. Uruguay), 2010 ICJ 14.

202 Lipper, pp. 44–5. As noted earlier, Lipper denies that there is a legally significant distinction between contiguous and successive watercourses. Lipper, p. 17.

203 Sauser-Hall, pp. 557–8 (translation from BERBER, pp. 38–9). To the same effect, see 1 FAUCHILLE, pp. 450, *et seq.*; and Lipper, p. 42.

204 TECLAFF 1967, p. 18.

205 Ibid.

206 SMITH, p. 137.

207 The claim is described in a letter of May 30, 1862 by the government of the Netherlands to the Dutch ministers in London and Paris. The text of the letter, in Dutch, is set forth in SMITH at p. 217. The original text is in the State Archives at The Hague. Smith also provides an English translation of the most pertinent paragraph at ibid.

208 As translated in SMITH at p. 217.

209 LEGISLATIVE TEXTS, Treaty Nos. 157 and 158, pp. 550 and 552. These agreements are also set forth in SMITH at pp. 162 and 165, respectively. The 1863 treaty is entitled Traité pour régler le régime des prises d'eau à la Meuse (Treaty to Establish the Regime of Diversions of Water from the Meuse).

210 Exchange of Notes between the United Kingdom and Egypt in regard to the Use of the Waters of the River Nile for Irrigation Purposes, May 7, 1929, 93 LNTS p. 44, LEGISLATIVE TEXTS, Treaty No. 7, p. 100.

211 PAPERS REGARDING NEGOTIATIONS FOR A TREATY OF ALLIANCE WITH EGYPT-EGYPT NO. 1, Cmd. 3050, p. 31 (London, H.M. Printing Office, 1928).

212 SMITH, p. 147.

213 Ibid.

214 Garretson, p. 287 (footnotes omitted).

215 Garretson observes with regard to this provision that: "It would seem quite clear that the Sudan thereby renounces any claim to the invalidity of the 1929 Agreement. Moreover, the full scheme of the 1959 Agreement is clearly an adaptation and extension of the 1929 Agreement." Ibid, p. 287.

216 THE NILE WATERS QUESTION, p. 13.

217 Ibid.

218 Agreement between the United Arab Republic and the Republic of Sudan for the Full Utilization of the Nile Waters, November 8, 1959, art. I(1), 453 UNTS p. 51, LEGISLATIVE TEXTS, Treaty No. 34, p. 143.

219 Hosni, p. 97. For further treatments of the legal situation with respect to the Nile, see, e.g., Badr, p. 94; BADDOUR, pp. 201–41; (The Hague, Nijhoff 1960); Andrassy 1959, pp. 319, *et seq.*; and 3 WHITEMAN, pp. 1002–13.

220 Concerning this dispute, see generally Cano; Dupuy; and LAMMERS, pp. 294–6.

221 According to Lammers, "the dispute between Argentina and Brazil on this question even made it impossible during the 1972 UN Conference on the Human Environment to reach consensus on Principle 20 of the Draft Declaration on the Human Environment, which referred to the obligation of States to supply information on activities within their territory

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which could have significant adverse effects on the environment of other States.” LAMMERS, p. 295.

222 Agreement between Argentina and Brazil entered into in New York, September 29, 1972. LAMMERS, p. 295.

223 As quoted in Cano, at p. 873, who also reports that Argentina denounced this Agreement on June 10, 1973, because of disagreements with Brazil over methods of notification and which country would be the judge of whether planned works might cause appreciable extraterritorial harm. Ibid, at pp. 873–4.

224 See also U.N.G.A. Res. 3129 (XXVIII), adopted on December 13, 1973, on the initiative of Argentina and fifty-two other countries after the breakdown of the 1972 agreement between Brazil and Argentina.

225 Reproduced in 1974 Y.B. INT'L L. COMM'N, vol. 2, pt. 2, p. 322, para. 326.

226 Ibid, p. 324. The Paraná is situated within the La Plata River Basin.

227 Agreement on Paraná River Projects, 19 Oct. 1979, 19 ILM 615 (1980).

228 See the discussion of this case in sections A.3 and B.1, above.

229 Statement of Martínez Sotomayor, Minister of Foreign Affairs of Chile, to the Council of the Organization of American States, 19 Apr. 1962, OEA/Ser.G/VI, p. 1, quoted in Lipper, pp. 27–8. Lammers observes that Bolivia also invoked the Montevideo Declaration, but differed as to its correct interpretation. Bolivia claimed that the Declaration “embodied international law and obliged Chile not to carry out the project before it had obtained the consent of Bolivia. Chile, however contended, inter alia, that the Declaration required such consent only if the project would cause damage to Bolivia and stated that Bolivia had not furnished any proof that it would suffer damage as a result of the diversion.” LAMMERS, p. 289. Lammers goes on to note that Chile eventually went ahead with the project, which was put into operation in 1962. Ibid, at pp. 289–90.

230 Declaration of Montevideo concerning the industrial and agricultural use of international rivers, approved by the Seventh Inter-American Conference at its fifth plenary session, December 24, 1933, paras. 2 and 4, Pan-American Union, SEVENTH INTERNATIONAL CONFERENCE OF AMERICAN STATES, PLENARY SESSIONS, MINUTES AND ANTECEDENTS, p. 114 (Montevideo, 1933).

231 Lipper, p. 27.

232 This case is discussed in section B.1, above.

233 *Lake Lanoux Arbitration (France v Spain)*, [1957] ILR, p. 101, at 111–12.

234 The mission of the U.S. mediator has been described as follows:

> In October 1953 President Eisenhower appointed Eric Johnston his personal representative … stating—
>
> “One of the major purposes of Mr. Johnston’s mission will be to undertake discussions with certain of the Arab States and Israel, looking to the mutual development of the water resources of the Jordan River Valley on a regional basis for the benefit of all the people of the area.”

3 WHITEMAN, p. 1017, quoting from 29 U.S. DEPT. ST. BULLETIN, No. 748, p. 553, October 26, 1953.

235 This situation is discussed in Ch. 7 section E.1.

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[236] "Eric Johnston Reports Agreement on Sharing of Jordan Waters," press release No. 369, July 6, 1954, 31 U.S. DEPT. ST. BULLETIN, No. 787, p. 134, July 26, 1954, quoted in 3 WHITEMAN, at pp. 1017–18.

[237] As quoted in LAMMERS, at p. 306, referring to the speech by Israeli Prime Minister Levi Eshkol in the Knesset on January 20, 1964, reproduced (in German) in 2 EUROPA-ARCHIV 1964, Dokumente, pp. D230-D232.

[238] LOWI, p. 102; LAMMERS, p. 306. For further discussion see Ch. 7 section E.1.

[239] Ibid, pp. 304, 306.

[240] LAMMERS, at p. 307; and Ch. 8 section E.1.

[241] See Ch. 7 section E.1.

[242] While the Rio Grande and Colorado River flow from the United States to Mexico (the Rio Grande forming a portion of the border) other smaller watercourses, such as the San Pedro, the New and the Tijuana Rivers, flow from Mexico into the United States. The two countries also share substantial groundwater reserves.

[243] Griffin 1958, pp. 89–90.

[244] Ibid, p. 89.

[245] See section A.2, above.

[246] Treaty relating to Boundary Waters, and Questions Arising Along the Boundary between the United States and Canada, January 11, 1909, BFSP, vol. 102, p. 137, 12 BEVANS 319, LEGISLATIVE TEXTS, Treaty No. 79, p. 260.

[247] Griffin 1958, p. 58.

[248] As set forth in ibid, p. 58.

[249] Ibid, p. 59.

[250] 1909 Boundary Waters Treaty, above, art. VI. The article actually provides that the two rivers "are to be treated as one stream for the purposes of irrigation and power," and that "in making such equal apportionment more than half may be taken from one river and less than half from the other, by either country, so as to afford a more beneficial use to each." This flexible formula more closely resembles an equitable apportionment than a mechanical equal division.

[251] See the survey of decisions of international courts and tribunals in McCaffrey, Second Report, pp. 113–22.

[252] 12 UNRIAA p. 281. See also 62 REVUE GÉNÉRALE DE DROIT INTERNATIONAL PUBLIC, p. 79 (1958). For English translations, see 1974 Y.B. INT'L L. COMM'N vol. 2, pt. 2, p. 194; 53 AJIL, p. 156 (1959); and [1957] ILR, vol. 24, p. 101 (1961). See the discussion of this case in sections B.1 and C.1 above.

[253] [1957] ILR at p. 105, where the tribunal refers to a communication from the French Ministry of Foreign Affairs to the Spanish Ambassador in Paris.

[254] Ibid, p. 106.

[255] Ibid, p. 107.

[256] Ibid, p. 111.

[257] Ibid, pp. 111–12.

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[258] From the translation of the award in 1974 Y.B. INT'L L. COMM'N, vol. 2, pt. 2, p. 194, at p. 196.

[259] Ibid, p. 197.

[260] Namely, the Treaty of Bayonne of May 26, 1866 and the Additional Act of the same date. LEGISLATIVE TEXTS, Treaty Nos. 184 and 185, pp. 671 and 672.

[261] *Gabčíkovo-Nagymaros Project (Hungary/Slovakia),* 1997 ICJ Reports p. 7.

[262] *Pulp Mills on the River Uruguay (Argentina v. Uruguay),* 2010 ICJ Reports p. 14. References by the parties and the Court to the principle of equitable and reasonable utilization appear throughout the judgment, despite the fact that, as in *Gabčíkovo,* a treaty governed the parties' relations in many respects in relation to the river.

[263] Judgment of April 9, 1949, 1949 ICJ p. 4, at p. 22. This case is also discussed in Ch. 6 section A.1.c. See generally Wright; and McCaffrey, Second Report, pp. 115–16.

[264] *United States v Canada*, 1941, 2 UNRIAA p. 1905 (1949). The case is discussed in section B.1, above.

[265] 2 UNRIAA p. 1965.

[266] See, e.g., *Kansas v Colorado*, 206 U.S. 46 (1907); *Wyoming v Colorado*, 259 U.S. 419 (1922); *New Jersey v New York*, 283 U.S. 336 (1931); *Washington v Oregon*, 297 U.S. 517 (1936); *Colorado v Kansas*, 320 U.S. 383 (1943); and *Nebraska v Wyoming*, 325 U.S. 589 (1945). Many of these cases are discussed in Chs. 6 and 9.

[267] 206 U.S. 46 (1907).

[268] 206 U.S. 100.

[269] 206 U.S. 118.

[270] See, e.g., *Württemberg and Prussia v Baden*, 116 ENTSCHEIDUNGEN DES REICHSGERICHTS IN ZIVILSACHEN, appendix, p. 18 (1927), 4 ANNUAL DIGEST OF PUBLIC INTERNATIONAL LAW CASES, 1927–1928, p. 128, case No. 86 (1931); and *Société énergie électrique du littoral méditerranéen v Compagnia imprese elettriche liguri*, 64 IL FORO ITALIANO, pt. 1, p. 1036 (1939), 9 ANNUAL DIGEST, 1938–1940, p. 120, case No. 47 (1942). See the discussion of these cases in Lipper, pp. 30–2, and in McCaffrey, Second Report, pp. 129–30.

[271] See, e.g., the works cited in BERBER, pp. 25–40; Lipper, pp. 35–6; and McCaffrey, Second Report, pp. 127–9, and the sources cited in n. 294, at p. 127. See also CAFLISCH; BOISSON DE CHAZOURNES; BOISSON DE CHAZOURNES, *ET AL*.; LEB; RIEU-CLARKE, *ET AL*.; SALMAN 2009; TANZI AND ARCARI.

[272] See the survey of writers in BERBER, pp. 219–22; and in LAMMERS, pp. 563–9.

[273] Huber, p. 163. See also p. 214, para. IV, where he repeats his conclusion. According to Huber, while neighborship law was at the time he wrote generally recognized in international legal doctrine and practice, it had not then been closely examined by any author. Ibid, p. 163. While Huber's article deals with a dispute between the Swiss cantons of Schaffhausen and Zurich (in fact, as stated at p. 31, it consists chiefly of an expert opinion he prepared for Zurich) over the use of the Rhine, which forms the boundary between them, he relied upon sources that dealt also, and often chiefly, with successive international watercourses.

[274] Ibid, pp. 163–4 (author's transl.) (principles 5 and 6 omitted).

[275] See section B.2, above. See also BERBER, p. 32.

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[276] See, e.g., Andrassy, pp. 116–18; CARATHEODORY, p. 32 (reflecting very advanced thinking for such an early work); FAUCHILLE, pp. 450, *et seq.*; GÖNNENWEIN, FREIHEIT DER FLUSSCHIFFAHRT, pp. 65, *et seq.* (1940); KAUFMANN, RÈGLES GÉNÉRALES DE LA PAIX, p. 82 (1936); Quint, pp. 325, *et seq.*; Sauser-Hall, pp. 554–8; SCHULTESS, p. 26; and THALMANN, p. 159. See also the conclusions arrived at in the ECE Hydroelectric Study, pp. 209, *et seq.*, esp. p. 211; and the similar concept of community of interest, discussed in section D, below.

[277] GÖNNENWEIN.

[278] Ibid.

[279] Quint.

[280] Gönnenwein.

[281] ECE Hydroelectric Study, p. 211. See also SCHULTESS, p. 26.

[282] SMITH, p. 151.

[283] FAUCHILLE.

[284] Quint, as translated in BERBER, pp. 34–5. Cf. also CARATHEODORY, at p. 32. On the doctrine of abuse of rights see generally KISS; F. Garcia-Amador, Fifth Report on International Responsibility, paras. 70–5, 1960 Y.B. INT'L L. COMM'N, vol. 2, pp. 41, 58–60; 1 OPPENHEIM, pp. 407–10; 5 WHITEMAN § 15, p. 224; and BIRNIE AND BOYLE, pp. 125–6.

[285] See 5 WHITEMAN § 17, p. 249. Cf. ibid, §§ 12, p. 216, and 13, p. 219.

[286] Schwarzenberger, pp. 309, *et seq.*

[287] *United States v Canada*, 1941, 2 UNRIAA 1905 (1949).

[288] Neumeyer, pp. 143, *et seq.* See BERBER, p. 28.

[289] See CARATHEODORY. Other early writings that support this theory include 1 DE MARTENS, TRAITÉ, pp. 479, *et seq.*; 2 PRADIER-FODÉRÉ, pp. 282, *et seq.* (No. 734); 1 FARNHAM, pp. 29, 63; 1 OPPENHEIM 1905, p. 175; and LEDERLE, pp. 51, *et seq.*

[290] See the IIL Madrid Resolution. See also the IIL Salzburg Resolution, especially arts. 2–4; the Helsinki Rules, Annex II, especially art. IV; and the Draft Articles on the Law of the Non-Navigational Uses of International Watercourses adopted in 1994 by the UN International Law Commission, 1994 Y.B. INT'L L. COMM'N, p. 89, especially art. 5, at p. 96. See generally the survey of the work of learned societies in this connection in McCaffrey, Second Report, pp. 125–7.

[291] See, e.g., Caflisch, p. 55; Lipper, pp. 24–5; 35; and SMITH, p. 144. State practice in other, related areas confirms this conclusion. The doctrine may be compared with the work of the UN International Law Commission (ILC) on International Liability for Injurious Consequences Arising Out of Acts Not Prohibited by International Law. In 1995 the ILC adopted the following provision, entitled "Freedom of action and the limits thereto":

> The freedom of States to carry on or permit activities in their territory or otherwise under their jurisdiction or control is not unlimited. It is subject to the general obligation to prevent or minimize the risk of causing significant transboundary harm, as well as any specific obligations owed to other States in that regard.
>
> Draft article "A", Report of the International Law Commission on the Work of Its Forty-Seventh Session, UN GAOR, 50th Sess., Supp. No. 10, p. 215, UN Doc. A/50/10 (1995). This article was not maintained in the set of articles on prevention adopted by the Commission on first reading in 1998, but art. 3 of the latter draft, entitled "Prevention", is to the same effect. Report of the International Law

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Commission on the Work of Its Fiftieth Session, UN GAOR, 53rd Sess., Supp. No. 10, p. 19, UN Doc. A/53/10 (1998).

292 See, e.g., Andrassy, pp. 104, *et seq.*; BERBER, pp. 22–5; Caflisch, pp. 59–61; Lipper, pp. 38–40; and VITÁNYI, pp. 31–3.

293 This will be discussed later in this introductory section.

294 These are touched upon under the heading, State Practice, below.

295 See, e.g., Andrassy, p. 104: “C’est donc l’unité physique ou naturelle qui crée la communauté d’intérêts.” See also Hartig; and Seidl-Hohenveldern.

296 Leg. VII, 9.

297 Metam. VI, 349: “Quid prohibetis aquas? Usus communis aquarum est.”

298 THE AENEID VII, 230: “Forth from that deluge over the wide waste/Of waters borne, we for our country’s gods/Crave a scant home, a harmless gift of coast,/*And air and water, free alike to all*” (emphasis added).

299 GROTIUS, Lib. II, Cap. II, XII, p. 196.

300 Ibid.

301 Judgment No. 16, September 10, 1929, PCIJ Ser. A No. 23, pp. 5–46. Reproduced in Manley O. Hudson ed., WORLD COURT REPORTS, vol. 2, p. 609 (1969). See McCaffrey 2012.

302 It is not disputed that the Warthe (Warta) and the Netze (Noteć) rise in Poland and that after flowing for a long way through Polish territory, they form the German-Polish frontier for a certain distance, and that then they pass into German territory, where the Netze (Noteć) flows into the Warthe (Warta) before that river joins the Oder. PCIJ Ser. A No. 23, p. 25.

303 This is a paraphrase of art. 1 of the Special Agreement of October 30, 1928, by which the case was submitted to the Court. WORLD COURT REPORTS, vol. 2, p. 610.

304 Art. 331 of the Treaty of Versailles provides in relevant part: “The following rivers are declared international: … the Oder (*Odra*) from its confluence with the Oppa; … and all navigable parts of these river systems which naturally provide more than one State with access to the sea . …” The “regime of internationalization” of the Oder, in particular, arose from arts. 332 to 337 of the Treaty of Versailles. PCIJ Ser. A No. 23, p. 23.

305 Ibid, p. 25.

306 Ibid, p. 26.

307 Ibid.

308 Ibid, pp. 27–8.

309 In accord are, inter alia, LAMMERS, pp. 506–7; and Lipper, p. 29. See also Jiménez de Aréchaga, p. 193.

310 Lipper observes that “if navigation on an international river—which involves the physical entry of foreign vessels into the territory of another state—does not violate state sovereignty, it would seem that, *a fortiori*, states would have the right to use the waters of such river within their own territory subject to ‘the perfect equality of all riparian States’ so to do.” Lipper, p. 29.

311 1997 ICJ 7, judgment of September 25, 1997. This case is discussed in Ch. 6 section A. 1.d.

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[312] Ibid, para. 85.

[313] Ibid.

[314] Institutes of Justinian, lib. II, titl. I, §§ 2 and 5.

[315] According to Fauchille: "A Rome, les fleuves étaient considérés comme des choses publiques du droit des gens, *rei publicae jure gentium* …, c'est-à-dire comme des choses dont l'usage était commun à tous, quel qu'en fût le propriétaire . …" FAUCHILLE, p. 465.

[316] Codigo de las Siete Partidas, part 3A, Tit. 28, Law 6. See TECLAFF 1985, p. 27.

[317] Code Napoleon, Art. 538. See TECLAFF 1967, p. 36.

[318] There were doubtless exceptions to this generalization in more arid regions, but records of practice in such areas are sparse. An obvious indication that there can be disputes between political units in desert regions is the long-running controversy between the Mesopotamian principalities of Umma and Lagash discussed in Ch. 3.

[319] VITÁNYI explains the background of this state of affairs at p. 30.

[320] The full quotation is set forth in Ch. 6.

[321] 1 MOORE p. 624, citing Am. State Papers, 1 FOR. REL., pp. 253, 4; JEFFERSON'S WORKS, vol. VII, pp. 577, 80. Vitányi characterizes the Jeffersonian conception that, as Vitányi describes it, "upstream riparians cannot be deprived of the natural right of access to the free sea," as showing "the characteristic features of the international servitude". VITÁNYI, p. 31. On servitudes in international law, see generally 2 OPPENHEIM, pp. 670, *et seq*.; 2 WHITEMAN p. 1173, *et seq*. (§10); and, specifically in the context of international watercourses, KAECKENBEECK, p. 13 (arguing that the doctrine of servitudes does not apply in this field).

[322] The full quotation is set forth in Ch. 5.

[323] Décret du November 16, 1792, L. Le Fur and G. Chklaver, RECUEIL DES TEXTES DE DROIT INTERNATIONAL, p. 67 (2nd edn., Paris, Dalloz 1934).

[324] Treaty of Peace and Alliance between the French and the Batavian Republic of May 16, 1795, art. 18, 6 MARTENS, p. 532 (VITÁNYI transl. at p. 34). The agreements based on the theory underlying the French decree are surveyed in VITÁNYI at pp. 34–7.

[325] 1 MARTENS p. 169 (BERBER transl., at p. 23).

[326] 3 MARTENS, Supp., p. 239, para. 39 (BERBER transl., at p. 23).

[327] (VITÁNYI transl., at p. 37).

[328] See, e.g., the treaty between France and the Batavian Republic, May 16, 1795, art. 18, 6 MARTENS, p. 532 (VITÁNYI transl. at p. 34).

[329] STRUPP, 2 DOCUMENTS POUR SERVIR À L'HISTOIRE DU DROIT DES GENS, p. 270 (1923). See BERBER, p. 24.

[330] Protocol on Shared Watercourse Systems in the Southern African Development Community (SADC) Region, August 28, 1995, entered into force September 29, 1998, art. 1(1), in TREATIES CONCERNING THE NON-NAVIGATIONAL USES OF INTERNATIONAL WATERCOURSES, AFRICA, FAO Legislative Study 61, p. 146, at pp. 147–8 (1997). The agreement was prepared by members of SADC, including Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, Swaziland, Tanzania, Zambia, and Zimbabwe, and was also signed by South Africa. It will be superseded by the Revised Protocol on Shared Watercourses in the Southern African Development Community (SADC) of August 7, 2000 when the latter enters into force, according to art. 16 of that agreement. Copy on file with the author. The Revised Protocol

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uses the term “shared watercourse,” which is defined in art. 1.1 as “a watercourse passing through or forming the border between two or more Watercourse States.”

331 Ibid, art. 2(2).

332 There is no corresponding provision in the Revised Protocol, which in many respects follows the 1997 UN Convention.

333 32 ILM 1147 (1993).

334 Ibid, art. 1(2).

335 The possible legal implications of the theory of “community of interest” are explored in the Conclusion to this section, subsection 4.b, below.

336 Copy on file with author, and with the Food and Agriculture Organization of the United Nations (FAO) in Rome.

337 See, e.g., arts. 1 and 2.

338 For example, in 1980 the UN International Law Commission adopted draft art. 5, “Use of waters which constitute a shared natural resource,” in the context of its work on the Law of the Non-Navigational Uses of International Watercourses. 1980 Y.B. INT’L L. COMM’N, vol. 2, pt. 2, p. 120 (1981). See also the Draft Principles of Conduct in the Field of the Environment for the Guidance of States in the Conservation and Harmonious Utilization of Natural Resources Shared by Two or More States, Decision 6/14 of the Governing Council of the United Nations Environment Programme (UNEP), May 19, 1978, UN GAOR, 33d Sess., Supp. No. 25, UN Doc. A/33/25, pp. 154–155 (1978), 17 ILM. 1097 (1978).

339 See generally the Helsinki Rules, Annex II.

340 LEGISLATIVE TEXTS, Treaty No. 45, p. 168. The treaty was ratified by Peru in 1957 and by Bolivia in 1987. United Nations, *International Rivers and Lakes Newsletter*, No. 23, p. 3 (June 1995).

341 Ibid, art. 1.

342 United Nations, *International Rivers and Lakes Newsletter*, No. 23, p. 4 (June 1995).

343 See, e.g., Lipper, at p. 39.

344 This is true of treaties concerning navigation, as well. See, e.g., the Barcelona Convention and Statute on the Regime of Navigable Waterways of International Concern, April 20, 1921, 7 LNTS, p. 35. Art. 1 of the Statute, (which is made an integral part of the Convention by art. 1 of the latter) declares certain generally defined waterways to be “of international concern,” whether the waterway in question “separates or traverses different States.” See also, e.g., the Treaty for Amazonian Cooperation, Brasilia, July 3, 1978, especially arts. 3 and 4, 17 ILM p. 1046 (1978); the Convention and Statutes relating to the Development of the Chad Basin, Fort Lamy, May 22, 1964, art. 7, AFRICA TREATIES, p. 8; the Treaty on the River Plate Basin, Brasilia, April 23, 1969, art. 1, 8 ILM 905 (1969); the Act regarding Navigation and Economic Cooperation between the States of the Niger Basin, Niamey, October 26, 1963, art. 3, 587 UNTS p. 13; and the Convention regarding the Regime of Navigation on the Danube, Belgrade, August 18, 1948, arts. 1 and 3, 33 UNTS 197. See generally the survey of state practice concerning “Sharing the waters of an international watercourse for navigational purposes” in the commentary of the International Law Commission to art. 5, “Use of waters which constitute a shared natural resource,” provisionally adopted in 1980 (and later withdrawn), 1980 Y.B. INT’L L. COMM’N, vol. 2, pt. 2, pp. 127–32 (1981).

345 See generally Lipper, p. 39.

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[346] See, e.g., the Agreement for the Utilization of the Waters of the Yarmuk River between Jordan and Syria, June 4, 1953, 184 UNTS 15, LEGISLATIVE TEXTS, Treaty No. 105, at p. 378 (providing for the construction of a dam which has not yet been built); and the agreement between Turkey and the Soviet Union to construct a dam on the Arpa-Chai River, a contiguous watercourse, with the two states to share the costs and benefits of the project. N.Y. TIMES, October 5, 1964, p. 5, col. 3, mentioned by Lipper at p. 39. See generally the survey of treaty provisions concerning the "Sharing of boundary waters" in the commentary of the International Law Commission to art. 5, "Use of waters which constitute a shared natural resource," referred to above, at pp. 132–5.

[347] See the Agreement between the United Arab Republic and Sudan for the Full Utilization of the Nile Waters, November 8, 1959, 453 UNTS 51, LEGISLATIVE TEXTS, Treaty No. 34, p. 143. See also the Treaty relating to Cooperative Development of the Water Resources of the Columbia River Basin, January 17, 1961, 15 UST 1555; 542 UNTS 244; LEGISLATIVE TEXTS, Treaty No. 65, p. 206.

[348] See, e.g., the Columbia River Basin Treaty, ibid, which allows the United States to use Canadian territory for water storage and provides for the United States to compensate Canada in dollars and in hydroelectric power. Art. VI. See also the Agreement for the Utilization of the Waters of the Yarmuk River between Jordan and Syria, 4 June 1953, 184 UNTS 15, LEGISLATIVE TEXTS, Treaty No. 105, at p. 378. The treaty provides for the construction of a dam on the Yarmuk, a boundary river between Syria and Jordan. The dam would provide electric power needed by Syria and water needed by Jordan. However, the dam contemplated by this agreement has not been constructed.

[349] See, e.g., the Convention between France and Switzerland for the Development of the Water Power of the Rhone, Bern, October 4, 1913, art. 5, LEGISLATIVE TEXTS, Treaty No. 197, p. 708; and the Treaty between the United States and Canada relating to the Uses of the Waters of the Niagara River, Washington, D.C., February 27, 1950, art. 6, 132 UNTS p. 228.

[350] Some of these agreements also include provisions concerning hydroelectric power. See, e.g., The Agreement between Argentina and Uruguay relating to the Utilization of the Rapids of the Uruguay River in the Area of Salto Grande, Montevideo, December 30, 1946, art. 1, 671 UNTS, p. 26; the Treaty between El Salvador and Guatemala for the delimitation of the boundary between the two countries, Guatemala, April 9, 1938, art. 2, 189 LNTS, p. 295; and the Agreement between the Soviet Union and Iran for the Joint Utilization of the Frontier Parts of the Rivers Aras and Atrak for Irrigation and Power Generation, Tehran, August 11, 1957, art. 1, 163 BSFP, 1957–58, p. 428 (1966).

[351] For general surveys of agreements establishing joint institutional mechanisms see, e.g., SMITH, ch. V, at p. 120; Ely and Wolman; and McCaffrey 1998.

[352] United Nations, Annotated list of multipartite and bipartite commissions concerned with non-navigational uses of international watercourses, April, 1979 (mimeo) (hereafter referred to as UN Annotated List).

[353] The UN Annotated List contains forty-eight entries for Europe, twenty-three for the Americas, ten for Africa, and nine for Asia. Ibid, p. ii.

[354] Prominent examples that come readily to mind are the states sharing the Danube, Ganges, the Great Lakes and other boundary waters between Canada and the United States, the Indus, the Nile, the Plata, and the Rhine. See the Convention on Cooperation for the Protection and Sustainable Use of the Danube River, October 29, 1994, art. 18 and annex IV, 35 INT'L ENVT. REP. p. 15 (January, 1996); the Treaty on Sharing of the Ganges Waters at Farakka, December 12, 1996, 36 ILM 519 (1997), establishing a Joint Committee to monitor daily water flows; the 1909 Boundary Waters Treaty between Canada and the United States, LEGISLATIVE TEXTS, Treaty No. 79, p. 260, art. VII, establishing the International Joint Commission of the United States and Canada; the Indus Waters Treaty,

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LEGISLATIVE TEXTS, treaty No. 98, p. 300, art. VIII, establishing the Permanent Indus Commission; the Agreement between the United Arab Republic and the Republic of Sudan for the Full Utilization of the Nile Waters (November 8, 1959), and Protocol concerning the establishment of the Permanent Technical Committee, 453 UNTS p. 75, LEGISLATIVE TEXTS, Treaty No. 34, at p. 143; the Joint Declaration of the Foreign Ministers of the States of the Plata River Basin (Argentina, Bolivia, Brazil, Paraguay and Uruguay), summarized in 1974 Y.B. INT'L L. COMM'N, vol. 2, pt. 2, p. 322, establishing the Intergovernmental Co-ordinating Committee of the Plata River; and the Agreement of April 29, 1963 between France, the Federal Republic of Germany, Luxembourg, the Netherlands, and Switzerland (the European Economic Community became a party in 1976) establishing the International Commission for the Protection of the Rhine against Pollution, summarized in 1974 Y.B. INT'L L. COMM'N, vol. 2, pt. 2, p. 301, and see the 1976 Convention on the Protection of the Rhine against Chemical Pollution between the same parties, 1124 UNTS p. 375, 16 ILM p. 242 (1977).

355 See, e.g., the functions described in SMITH at p. 121; and McCaffrey 1998, pp. 744–6.

356 See, e.g., the Convention portant création de l'Organisation pour la mise en valeur du fleuve Sénégal, Nouakchott, 11 Mar. 1972, AFRICA TREATIES, p. 21; and the Treaty between Mexico and the United States relating to the Utilization of the Waters of the Colorado and Tijuana Rivers, and of the Rio Grande (Rio Bravo) from Fort Quitman, Texas, to the Gulf of Mexico, Washington, 3 Feb. 1944, 3 UNTS 314, LEGISLATIVE TEXTS, Treaty No. 77, p. 236, establishing the International Boundary and Water Commission.

357 Cf. Lipper, at p. 39.

358 See, e.g., GROTIUS; the eighteenth-century work by J.A. SCHLETTWEIN discussed below; and FARNHAM, vol. 1, pp. 29, 63.

359 See the introduction to section C, above.

360 SCHLETTWEIN, pp. 11–12 (author's transl.). The effect of these ideas in the Scheldt controversy is discussed by VITÁNYI, at p. 29.

361 See section C.1, above.

362 CARATHEODORY, p. 32.

363 1 FARNHAM, p. 29.

364 Ibid.

365 See the discussion of this dispute in Ch. 4.

366 LEDERLE, pp. 60, *et seq*. (BERBER transl., at p. 24).

367 See section B.2, above.

368 Huber, p. 161. See also ibid, p. 163.

369 Here Huber referred both to Roman law and to decisions of Zurich courts. Ibid, p. 161.

370 Ibid, pp. 161–2.

371 Ibid, p. 162.

372 Ibid.

373 GODANA, p. 49.

374 Ibid.

375 Ibid.

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[376] Ibid.

[377] 1997 ICJ para. 85. The case is discussed above.

[378] See section A.3, above.

[379] Seidl-Hohenveldern, p. 193, summarizing Hartig's views.

[380] Ibid, p. 193, summarizing Hartig, p. 8.

[381] Ibid, p. 193.

[382] Ibid, p. 195.

[383] Ibid, pp. 192–3.

[384] Caflisch, p. 59.

[385] Ibid.

[386] Ibid, p. 60.

[387] Ibid.

[388] Ibid. See also VITÁNYI, at p. 33, noting that the concept of condominium is taken from Roman law, "where it designates the regime of collective ownership … or more exactly of co-sovereignty . …" "The idea of the 'common ownership' of the rivers in question is meant to express rather *the existence of a special community of riparians*, which has not been created by means of treaties, but drives from nature itself." Ibid (emphasis in original).

[389] Ibid, p. 61. Pradier-Fodéré was of the view that it is not a "condominium" but a sort of "consortium," a fluvial community, that has no other object than to regulate by common accord all that concerns navigation. 2 PRADIER-FODÉRÉ, p. 252.

[390] Ibid.

[391] The term "riparian" is used in this book in its broadest sense as referring to a state within which at least one component (e.g., groundwater or a tributary) of an international watercourse system is located.

[392] Cf., e.g., the cases of the Nile and the Euphrates, discussed below in Ch. 7 sections A and E.3.

[393] Cf. the Basel chemical spill into the Rhine, which destroyed much of the life in the river. See generally Nanda and Bailey, pp. 16–19.

[394] The accommodation would generally take the form of striking an equitable balance between the interests in question.

[395] This is, after all, the essence of the famous Principle 21 of the 1972 Stockholm Declaration, which was copied nearly verbatim as Principle 2 of the 1992 Rio Declaration. See the discussion in section A.3 above.

[396] See Leb.

[397] See the discussion of the views of commentators in relation to the "limited territorial sovereignty" doctrine in section C.2, above.

[398] RODGERS, p. 163.

[399] This is true, for example, of Roman law, and the French Code Civil. See Andrassy, pp. 100–1. See also the survey of national laws in LAMMERS, pp. 441–86, with conclusions at pp. 490–502.

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[400] As noted in Ch. 2, a watercourse system may exceed the geographical limits of a drainage basin, since groundwater interacting with the system may be situated partly outside the basin, or watershed.

[401] This point was elaborated upon above in connection with both successive and contiguous watercourses. For example, on a successive watercourse, while an upstream state could affect a downstream state by polluting the watercourse or withdrawing water from it, a downstream state could affect an upstream state by constructing a dam which blocked navigation and fish migration, and which flooded the upstream state.

[402] The work of the Institute of International Law (IIL), the International Law Association (ILA), and the International Law Commission of the United Nations (ILC) all support a limited territorial sovereignty or kindred theory. For the IIL, see the IIL Madrid Resolution; the IIL Salzburg Resolution; and the IIL Athens Resolution. For the ILA, see the Helsinki Rules, Annex II; and the Montreal Rules on Water Pollution in an International Drainage Basin, in ILA MONTREAL REPORT, pp. 535–46. For the ILC, see Draft Articles on the Law of the Non-Navigational Uses of International Watercourses, 1994 Y.B. INT'L L. COMM'N, p. 89. See generally Part IV below on Fundamental Rights and Obligations.

[403] IIL Madrid Resolution, Regulation II(7). See also, e.g., art. 24 of the ILC's draft articles, 1994 Y.B. INT'L L. COMM'N, p. 125.

[404] See Gleick 1996.

[405] See Ch. 2 section C. See generally McCaffrey 1997b, pp. 56–8.

[406] See United Nations Convention on the Law of the Sea, December 10, 1982, arts. 69, 70, 148, 254, in United Nations, THE LAW OF THE SEA (New York, 1983).

[407] Many other possibilities, including water conservation and recycling, protection of water resources, more efficient water use, upgrading of sanitation facilities, capacity building, enhancing the role of women, and the like are suggested in Agenda 21, especially Ch. 18. Report of the United Nations Conference on Environment and Development, vol. 1, UN Doc. A/CONF.151/26/Rev.1 (Vol. I), Annex II, p. 9 (1993). Ch. 18 on fresh water appears at pp. 275, *et seq*. Desalination would be a possibility for coastal states.

[408] In addition to pipelines, water has been moved by tanker ship, and proposals have ranged from towing icebergs to towing gigantic water-filled bags. These are discussed in Ch. 7. Concerning icebergs, see, e.g., John L. Hult, *The Global Role of Antarctic Iceberg Exploitation*, in ICEBERG UTILIZATION, p. 29.

[409] See, e.g., the discussion of the "Peace Pipeline" in Ch. 7 section E.4.

[410] Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of December 10, 1982, 33 ILM 1311 (1994). This agreement cleared the way for the United States and other industrialized states that had objected to Part XI to accept the Convention. It was adopted by the United Nations General Assembly in G.A. Res. 48/263 (July 28, 1994); the Agreement, which is annexed to the resolution, was opened for signature the following day, and it has been signed by virtually all industrialized states.

[411] A similar proposal was made by Thomas Franck, who suggested that the Trusteeship Council might be utilized "to supervise the administration of certain global resources … which would be held in trust by the administering power . …" Franck, p. 541. On the status of the Trusteeship Council, see Willson, pp. 121–2.

[412] Again, Professor Franck: "In return for meeting the standards established by the Council, [the administering power] would receive debt relief through the UN system, possible from a mandatory general prorated assessment on all members. This payment would not be 'debt forgiveness' but compensation for the opportunity costs to [the

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administering power] of [administering its resources] for the common good of humanity." Franck, p. 541.

413 See Allan.

414 GROTIUS, XIII, pp. 199–200.

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