The Frictions of Federalism: The Rise and Fall of the Federal Common Law of Interstate Nuisance

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> *When the States by their union made the forcible abatement of outside nuisances impossible to each, they did not thereby agree to submit to whatever might be done. They did not renounce the possibility of making reasonable demands on the ground of their still remaining* quasi-*sovereign interests; and the alternative to force is a suit in this court.*
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> Justice Holmes in *Georgia v. Tennessee Copper Co.*[1]

Contemporary controversies over federalism generally are founded on conflicts between federal and state interests. Yet in one unique respect the structure of our constitutional system relies on federal common law, fashioned in the first instance by the U.S. Supreme Court, as the primary vehicle for vindicating *state* interests. Article III, Sec. 2 of the Constitution extends the judicial power to controversies between two or more states and it specifies that the Supreme Court has original jurisdiction over cases in which a state shall be a party. As contemplated by the framers of the constitution,[2] the Supreme Court has employed its original jurisdiction to resolve disputes between states, including not only boundary disputes, but also disputes over transboundary pollution and water rights.

Interstate pollution has been a prominent source of tension in our federal system for more than a century.[3] Beginning in 1900, states raised transboundary pollution disputes directly in the U.S. Supreme Court, which heard them in the exercise of its original jurisdiction over controversies between states.[4] The Court recognized that it was the body uniquely capable of resolving disputes that, if they "arose between independent sovereignties, might lead to war."[5]

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[1] Georgia v. Tennessee Copper Co., 206 U.S. 230, 237 (1907).

[2] The framers of the constitution clearly contemplated that the Court would play an important role in resolving more than just boundary disputes between states. As Alexander Hamilton explained, "there are other sources, besides interfering claims of boundary, from which bickerings and animosities may spring up among members of the union. . . . Whatever practices may have a tendency to disturb the harmony of the states, are proper objects of federal superintendence and control." The Federalist No. 80, at 407-08 (M. Beloff ed. 1948).

[3] See Richard B. Stewart, Interstate Resource Conflicts: The Role of the Federal Courts, 6 Harv. Envt'l L. Rev. 241 (1982).

[4] U.S. Const. Art. III, Sec. 2. Article III, Sec. 2 of the Constitution extends the judicial power to controversies between two or more states and to controversies between a state and citizens of another state. It specifies that the Supreme Court has original jurisdiction over cases in which a state shall be a party.

[5] Missouri v. Illinois, 200 U.S. 496, 518 (explaining the Court's prior decision in Missouri v. Illinois, 180 U.S. 208 (1901) upholding its jurisdiction to hear an interstate pollution dispute).

In a series of cases that spanned seven decades,[6] the Court adjudicated interstate pollution disputes by fashioning a federal common law of interstate nuisance. On several occasions the Court used its equitable powers to issue injunctions restricting interstate pollution or requiring that states construct waste disposal facilities.[7] This paper tells the story of this colorful history, which has largely been forgotten in the wake of the Court's decision that federal regulatory statutes preempt the federal common law of nuisance.[8] Despite the Court's withdrawal from the field, its decisions have become important precedents for the nascent international law of transboundary pollution[9] and they have important implications for current controversies over federalism, separation of powers, and regulatory policy.

National environmental policy is now dominated by federal regulatory programs that have become a source of considerable friction between state and federal authorities. These programs generally centralize regulatory authority in federal agencies that establish national environmental standards.[10] The presence of interstate externalities – the fact that pollutants do not respect political boundaries – is the most widely-accepted rationale for centralizing national regulatory authority.[11] Yet the federal environmental laws have been surprisingly ineffective in controlling transboundary pollution problems.[12] Some national regulatory programs have even exacerbated interstate externalities as states seek to meet federal standards by exporting pollutants elsewhere.[13] As a result, transboundary pollution problems remain a source of contemporary conflict in our federal system[14] as efforts to take a fresh look at common law approaches[15] remain a lively topic for debate.[16]

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[6] Missouri v. Illinois, 200 U.S. 496, 518 (1906); Georgia v. Tennessee Copper Co., 206 U.S. 230 (1907); New York v. New Jersey, 256 U.S. 296 (1921); New Jersey v. City of New York, 284 U.S. 585 (1931); Illinois v. City of Milwaukee, 406 U.S. 91 (1972); Vermont v. New York, 417 U.S. 270 (1974).

[7] Georgia v. Tennessee Copper Co., 237 U.S. 474 (1915); Wisconsin v. Illinois, 281 U.S. 696 (1930); New Jersey v. City of New York, 284 U.S. 585 (1931).

[8] The Supreme Court stopped developing the federal common law of nuisance after declaring in City of Milwaukee v. Illinois, 451 U.S. 304 (1981), that the Clean Water Act's regulatory scheme was so comprehensive that it preempted federal common law for interstate pollution.

[9] See, e.g., the Trail Smelter Decision, 3 R. Intl. Arb. Awards 1905 (1941). See also Thomas Merrill,"Golden Rules for Transboundary Pollution," 46 Duke L. J. 931 (1997).

[10] See Robert V. Percival, Environmental Federalism: Historical Roots and Contemporary Models, 54 Md. L. Rev. 1141 (1995).

[11] See, e.g., Richard B. Stewart, Pyramids of Sacrifice? Problems of Federalism in Mandating State Implementation of National Environmental Policy, 86 Yale L. J. 1196, 1226 (1977); Daniel C. Esty, Revitalizing Environmental Federalism, 95 Mich. L. Rev. 570, 626 (1996); Richard L. Revesz, Federalism and Interstate Environmental Externalities, 144 U. Pa. L. Rev. 2341, 2342 (1996).

[12] See Thomas W. Merrill, supra note 9, at 932 ("Notwithstanding the broad general trend toward centralized regulatory authority in environmental law, and the widespread invocation of transboundary pollution as a justification for that trend, little meaningful regulation of transboundary pollution actually exists.").

[13] See Robert V. Percival, Alan S. Miller, Christopher H. Schroeder & James P. Leape, Environmental Regulation: Law, Science, and Policy 590 (3d ed. 2000) (electric utilities responded to federal air quality standards by building taller smoke stacks to disperse pollutants over greater distances); Revesz, supra note __, at 2351-52.

[14] 60 Fed. Reg. 33,956 (1999); Matthew Wald, EPA Is Ordering 392 Plants to Cut Pollution in Half, N.Y. Times, Dec. 18, 1999, at A1; id. at 580, 592.

[15] See, e.g., Roger Meiners & Bruce Yandle, Common Law Environmentalism, 94 Pub. Choice 99 (1998); Roger Meiners & Bruce Yandle, Common Law and the Conceit of Modern Environmental Policy, 7 Geo. Mason L. Rev. 923 (1999).

This paper reviews the history of the federal common law of interstate nuisance. It focuses on how the Supreme Court adjudicated transboundary pollution disputes prior to the rise of federal regulatory legislation. Part I discusses the long-running controversy over the Chicago drainage canal, which spawned the Court's first foray into an interstate pollution dispute in *Missouri v. Illinois,*[17] as well as the battle to prevent water diversions from harming the waterways of the Great Lakes. Part II discusses Georgia's lawsuit against copper smelters in Tennessee that produced the Court's first injunction to control transboundary pollution in *Georgia v. Tennessee Copper Co*.[18] Part III examines water pollution disputes during the 1920s and 1930s between New York and New Jersey. Part IV reviews the Court's decision in the 1970s to decline to exercise its original jurisdiction when an alternative forum was available to hear interstate nuisance claims. Part V examines the Court's decisions during the 1980s that federal regulatory programs preempted the federal common law of nuisance, but not the common law of states where transboundary pollution sources are located. Part VI discusses why the history of the federal common law of nuisance has relevance for current debates over federalism, separation of powers, and regulatory policy.

I. MISSOURI v. ILLINOIS

The first transboundary pollution dispute heard by the U.S. Supreme Court was generated by a massive public works project to rescue Chicago from horrendous sanitation problems caused by its sewage disposal practices. A severe cholera outbreak in Chicago in the early 1850s killed between three and five percent of the city's population annually for six years. The precise cause of the cholera outbreak was unknown, but it was clear that Chicago's practice of dumping its raw sewage into Lake Michigan would have to change. In 1855 the Illinois Legislature created a Board of Sewerage Commissioners, which hired Boston engineer Ellis S. Chesbrough to design the first comprehensive, underground sewer system in the United States. Chesbrough proposed raising the grade of the streets and existing buildings in order to facilitate the laying of sewer pipes, a plan the city ultimately adopted. Of the four options recommended by Chesbrough for discharging the sewage the new system collected, the Commissioners chose the cheapest one, discharging it into the Chicago River, which flowed into Lake Michigan.

Thus, like virtually all other cities in the nineteenth century, Chicago disposed of its municipal sewage by dumping it untreated into the nearest body of water. The sewage congregated in Lake Michigan, the source of the Chicago's drinking water. To recover drinking water from a less polluted portion of the lake, the city officials built a two mile-long water tunnel into Lake Michigan, which was completed on Dec. 6, 1866. A second water tunnel into the lake was built in 1874. In 1892 an additional tunnel, four miles-long, was completed.

A. *Construction of the Chicago Drainage Canal*

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[16] See, e.g., Andrew Mcfee Thompson, Free Market Environmentalism and the Common Law: Confusion, Nostalgia, and Inconsistency, 45 Emory L. J. 1329 (1996).
[17] 200 U.S. 496 (1906).
[18] 206 U.S. 230 (1907).

As Chicago's population expanded, sewage contamination of Lake Michigan increased, threatening public health. After thousands of Chicagoans died of typhoid during the early 1880s, a radical new plan for sewage disposal was developed. Chicago would build a canal that would reverse the flow of the Chicago River so that sewage disposed in it would flow into the Illinois River and, ultimately, the Mississippi. Despite the staggering cost of such a project, state officials deemed it a worthwhile investment even if each life it saved was worth only $5,000. In addition to benefiting public health, the canal also would open up a new shipping channel, fulfilling the dream of a canal linking the Great Lakes with the Mississippi River first articulated in 1674 by the explorer Pere Joliet.

To finance construction, the Illinois Legislature created the Chicago Sanitary District in July 1889 and gave it power to issue bonds and to levy property taxes.[19] Voters residing within the new district approved its creation by referendum on Nov. 5, 1889 by a vote of 70,958 to 242. At a special election a month later they elected nine commissioners to govern the district.[20]

Disputes over the canal's route and the resignation of the Sanitary District's first chief engineer delayed the project's groundbreaking until September 3, 1892. The 28 mile-long canal was to run between the south branch of the Chicago River and the Desplaines River at Lockport, Illinois. The Des Plaines River flows into the Illinois River, which joins the Mississippi River 43 miles above St. Louis. The project was expected to take 3-1/2 years to complete, but it ended up taking twice as long. When it finally opened in 1900, $33 million had been spent on the project.

Missouri officials worried that the drainage canal would pollute the Mississippi, the source of their drinking water. Wisconsin and Michigan officials were concerned that the project, by reversing the flow of the Chicago River, would lower the level of Lake Michigan and cause harm to their citizens. Chicago argued that raw sewage it discharged into the canal would be harmlessly diluted by natural forces given the increased volume of water flowing through the canal. While the level of Lake Michigan would lower, it would not fall by more than 3 to 6 inches, as estimated by the Board of United States Engineers.[21]

As the project neared completion in December 1899, rumors abounded that Missouri officials would take legal action to block opening of the canal. Fearful of legal action, the commissioners of the Chicago Sanitary District began to let water flow into the drainage canal unannounced at dawn on January 2, 1900.[22]

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[19] The upper limit on the District's taxing power, which initially had been set at one-half of one percent of taxable property values, was increased to one and one-half percent in 1895 when it appeared that insufficient funds would be available to pay for the drainage canal. Sanitary District of Chicago, A Concise Report on its Organization, Resources, Constructive Work, Methods and Progress 28 (1899).

[20] Drainage Canal's Legal Work, Chicago Tribune, Jan. 9, 1900.

[21] Engineers' Feat in Big Channel, Chicago Tribune, Jan. 2, 1900, p. 10.

[22] Turn the River Into Big Canal, Chicago Tribune, January 3, 1900, p. 1 ("Two belated newspaper reporters, who came running across the earth piles, caused a small panic until it was seen they carried no injunction with them. It was with a feeling of relief that the water finally was seen pouring down the sluiceways without a legal halt having been called.").

Infuriated by Chicago's action to open the canal in secrecy, Congressman Bartholdt of St. Louis protested to U.S. Secretary of War Root and U.S. Attorney General Griggs. Secretary of War Root said he would not revoke the canal's permit unless the canal was shown to interfere with shipping interests or the health of citizens in St. Louis.[23] The Attorney General advised the Congressman that his only recourse was to seek relief in the courts.

On January 4, 1900, Missouri Attorney General Edward C. Crow met with Missouri Governor Stephens, who agreed that the state should file suit against Illinois in the U.S. Supreme Court. Arguing that "the health of the citizens of the great City of St. Louis is directly menaced," General Crow announced that the best course for resolving the controversy was for Missouri to bring an original action against Illinois in the U.S. Supreme Court. This would permit the Court to settle the issue more speedily than would any proceeding brought in federal district court.[24] Crow argued that because Missouri had jurisdiction over the waters of the Mississippi from the Missouri shore to the middle of the river's main channel, "it is within the power of the State of Missouri to protect these waters from pollution, in order to preserve the health of our citizens."[25] Missouri Governor Stephens described Chicago's action as a "great wrong" and vowed that he would "not give up this fight for our lives until the canal is closed, and closed forever."[26]

Chicago argued that it was unfair for Missouri to take legal action after so much time and money had been invested in building the canal, which had become one of the most expensive public works projects to date. While expressing concern that the canal could threaten public health, William Kennett, president of the St. Louis Merchants Exchange, noted that "as businessmen, we must recognize the fact that Chicago should not have been allowed to go on without objection all these years spending the money it has on this work without being allowed to reap some benefit from it."[27] William Marion Reedy, editor of the St. Louis Mirror, argued that Missouri should have filed an anticipatory nuisance action to block the project years before.[28] Commissioner Goldzler of the Chicago Sanitary District argued that because Missouri waited to take legal action until after the opening of the canal, "it will be possible for Chicago to show the actual facts as they have resulted from the opening, instead of theories."[29]

Dr. Joseph Grindon, president of the St. Louis Medical Society, believed that "the introduction of the sewage of Chicago into the Mississippi River will injure the water supply of St. Louis." However, he noted a larger problem, independent of the drainage canal. "Eliminate Chicago entirely from the subject, and the fact remains that to the north of us on the banks of the Missouri, Mississippi, and Illinois Rivers are constantly growing cities, all emptying their sewage into the streams above us. As a result our water supply is already bad and will keep getting worse no matter what Chicago may do." The only long-term solution was to "abandon

[23] St. Louis Has Two Rebuffs, Chicago Tribune, January 4, 1900, p. 4.
[24] Seeks to Enjoin Canal, Chicago Tribune, January 5, 1900, p. 1.
[25] Id.
[26] Id.
[27] Big Canal Will Help St. Louis, Chicago Tribune, Jan. 9, 1900, p. 1.
[28] Id.
[29] Citizens Glad of Opening, Chicago Tribune, Jan. 18, 1900, p. 4.

our present water supply and seek another one in some one of the now navigable rivers to the west of us."[30]

B. *Missouri's Interstate Nuisance Action*

On January 17, 1900, Illinois Governor John R. Tanner approved final opening of the drainage canal, allowing water previously released into it to flow into the Desplaines River. The governor authorized the Lockport dam to be lowered, connecting canal waters with water flowing to the Mississippi.[31] Missouri immediately applied to the U.S. Supreme Court for leave to seek an injunction against Illinois.[32] In its complaint Missouri named both Illinois and the Sanitary District as defendants. It alleged that it citizens used water from the Mississippi River for drinking, agriculture and manufacturing purposes and that the drainage canal would cause 1,500 tons per day of "undefecated filth and sewage and poisonous and unhealthful and noxious matters" to flow into the river. The complaint declared that this will create "a direct and continuing nuisance" by rendering the river "wholly unfit and unhealthful for drinking and domestic uses."[33] Missouri asked for both a temporary and a permanent injunction prohibiting the defendants from discharging any sewage into the drainage canal. It did not seek to block use of the canal as a waterway, but rather only to bar sewage discharges into it.

On January 22, 1900, the Court granted Missouri leave to file its complaint. In March 1900 Illinois filed a demurrer seeking dismissal of the action. Illinois argued that the Supreme Court had no jurisdiction over the case because it was not properly a dispute that involved either the states of Missouri or Illinois in their capacities as states. Illinois argued that the case concerned only certain Missouri cities, towns and citizens and not any property rights of the state of Missouri.[34]

The Supreme Court heard oral argument on Illinois's demurrer on November 12 and 13, 1900. Eleven weeks later, on January 28, 1901, the Court announced its decision overruling the demurrer and allowing the case to proceed.[35] The Court rejected Illinois's arguments that Missouri's claim was not a dispute between states subject to the Court's original jurisdiction in an opinion written by Justice George Shiras, Jr.,[36] and joined by five other justices -- Justices Gray, Brewer, Brown, Peckham and McKenna.

After reviewing the history of the Court's original jurisdiction,[37] which previously had been exercised only in boundary disputes and cases involving state property rights, Justice Shiras

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[30] St. Louis Water Bad for Years, Chicago Tribune, Jan. 10, 1900, p. 3.
[31] River Starts to Gulf, Chicago Tribune, Jan. 18, 1900, p. 1.
[32] Canal Fight on in Washington, Chicago Tribune, Jan. 18, 1900, p. 4.
[33] Bill of Complaint in Missouri v. Illinois, No. 5 Original (1900), reproduced at 206 U.S. 209, 213.
[34] Demurrer of Illinois in Missouri v. Illinois, No. 5 Original (1900), reproduced at 206 U.S. 216, 218.
[35] Missouri v. Illinois, 180 U.S. 208 (1901).
[36] Shiras has been described as "an avid fisherman" who loved wildlife. The Supreme Court Justices 263 (Clare Cushman, ed., 1993).
[37] Shiras noted that the Articles of Confederation had provided for Congress to appoint a 13-person tribunal of citizens to resolve disputes between states. The 13 members of the tribunal were to be selected from a pool of 39 formed by having each state nominate three persons. The parties to the dispute then would take turns striking members of the pool until it was down to 13. At the constitutional convention early drafts of the constitution

declared that "such cases manifestly do not cover the entire field in which such controversies may arise."[38] He noted that the injury Missouri alleged "is such that an adequate remedy can only be found in this court at the suit of the State of Missouri." Shiras declared that "if the health and comfort of the inhabitants of a State are threatened, the State is the proper party to represent and defend them." Having given up the powers of an independent sovereign to make war and conduct diplomacy, Missouri should be able to seek a remedy from the federal government when transboundary pollution threatens the health of its inhabitants. He dismissed any notion that private nuisance actions brought by individuals could be an adequate remedy in such circumstances.[39]

The Court rejected the notion that Illinois was not a proper party to the suit, noting that the Sanitary District was an agency of the state acting under state authority to do the very things alleged to create a nuisance. It also dismissed the suggestion that Missouri had been guilty of laches by not seeking an injunction earlier, noting the difficulty of proving an anticipatory nuisance and the fact that Missouri was not seeking an injunction against use of the canal as a waterway, but rather only against discharges of sewage into it.[40]

Chief Justice Melville W. Fuller wrote a dissent joined by Justices John Marshall Harlan and future chief justice Edward Douglass White. Fuller, who was the first chief justice to have had formal legal training (having attended Harvard Law School for six months), had practiced law in Illinois where he was involved in Democratic politics at the time of his nomination to the Court.[41] He argued that this was not a dispute between states because the Illinois governor's only role was to authorize opening of the canal, which he had done, and that no official acts by the state remained to be performed. The Chief Justice would have dismissed the state of Illinois as a defendant without prejudice to Missouri's right to proceed in a new suit against the Sanitary District alone. Thus, while the three dissenters questioned Missouri's right to sue Illinois, none of the Justices questioned the propriety of the Court using its original jurisdiction to hear an action against the Sanitary District.

While the Court upheld Missouri's right to seek relief, it did not grant the state's request for a preliminary injunction. The Court noted that the claimed injuries were the product "of a public work, authorized by law" and that Illinois had denied that the canal would cause damage and irreparable injury. The Court observed that before an injunction would issue, Missouri would have to prove the existence of a nuisance by "determinate and satisfactory evidence," with proofs that "must show such a state of facts as will manifest the danger to be real and immediate." [42]

C. *Presentation of Testimony and Oral Argument*

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proposed having a special court formed by the Senate to resolve disputes between states over property or jurisdiction, while authorizing the Supreme Court to resolve all other disputes between states. The provision for a senate special court was dropped in favor of giving the Supreme Court jurisdiction over all disputes between states.

[38] Missouri v. Illinois, 180 U.S., at 241.

[39] Id.

[40] Id. at 245, 246.

[41] The Supreme Court Justices 247-48 (Clare Cushman, ed., 1993).

[42] Missouri v. Illinois, 180 U.S. 208, 248 (1901).

While Chicago's sewage flowed through the drainage canal, the parties gathered evidence to support their cases. Missouri eventually filed a supplemental bill of complaint alleging that the canal had produced "all the evils which were apprehended when the injunction first was asked."[43] On November 17, 1902, the Supreme Court appointed Frank S. Bright to serve as commissioner to supervise the taking of testimony. Testimony commenced on February 17, 1903. After two extensions of time for taking testimony were granted, the parties finished presenting their factual cases on May 28, 1904. More than 350 witnesses testified and more than 100 exhibits were presented before Commissioner Bright, producing a record that consumed 13,160 typewritten pages.[44] It took more than a year for Bright to prepare his report, which he presented to the Court on May 29, 1905.

The Court then heard oral argument for a period of three days on January 2, 3 & 4, 1906. Missouri argued that connecting the drainage canal to the Illinois River had increased the population "sewering" into the Mississippi River watershed by 75 percent. While conceding that science was not capable of detecting directly the presence of typhoid *bacilli* in running water, Missouri sought to prove that Chicago's sewage had increased typhoid deaths in St. Louis. The state presented data indicated that there had been a 77.7% increase in typhoid deaths in St. Louis during the period 1900-1903 compared with the period from 1896-99.[45] It argued that no other factor could account for this increase other than pollution from the drainage canal. Missouri argued that the economic damage alone caused by an extra 1,200 cases of typhoid and 80 more deaths per year ran into the hundreds of thousands of dollars annually, applying a valuation of $5,000 per death and $10 per day to treat the disease, without considering pain and suffering experienced by victims. If Chicago was allowed to continue dumping its sewage into the drainage canal, Missouri would have to spend millions of dollars to filter its drinking water. Counsel for Missouri argued that the problems would only get worse as Chicago's population increased from two million to five million people.[46]

Arguing in defense, counsel for Illinois maintained that the drainage canal actually had improved conditions in the Illinois River by increasing its water flow and diluting pollutants in the river. As a result, the Illinois River was now less polluted than the Missouri and Mississippi Rivers, which were contaminated largely due to sewage from Missouri's own cities. Counsel for Missouri agreed that the drainage canal had increased the volume and speed of the river, but they maintained that this simply spread the pollutants over greater distances. Counsel for Illinois attributed any increase in typhoid deaths in St. Louis to changes in reporting practices that now attributed deaths to typhoid that previously had been classified as deaths from other causes. Illinois also charged that Missouri was guilty of laches by failing to seek an injunction during the seven years the drainage canal was under construction. Having then spent $42.5 million on the project, Illinois maintained that the balance of equities favored its interests and that it would suffer greater harm if an injunction was issued.

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[43] Missouri v. Illinois, 200 U.S. 496, 517 (1906).

[44] Transcript of Record, Missouri v. Illinois, No. 4 Original, at 14-29.

[45] Reported deaths from typhoid fever had increased from 131 in 1899 to 281 in 1903, though far more dramatic year to-year changes in typhoid deaths had occurred before the canal was opened (e.g., in 1892).

[46] See summary of argument for the complainant in Missouri v. Illinois, 200 U.S. 496, 497-510.

In an effort to determine whether water-borne bacteria that cause typhoid could survive the river journey from Chicago to St. Louis, the parties conducted a series of experiments. These involved placing floats, barrels, and permeable sacs at various points in the drainage canal and the rivers. The floats took between eight to eighteen and one-half days to travel the full 357 miles between Chicago and St. Louis. Expert witnesses for Illinois interpreted the results as indicating that no bacteria would survive long enough to complete the journey, while Missouri's experts argued that the bacteria could survive for more than 25 days.

Counsel for Illinois argued that Missouri was not entitled to an injunction under the doctrine of "unclean hands" because Missouri's own cities discharged their raw sewage into the Mississippi and that these cites "are all agencies of the State" whose acts should be imputed to the state. Responding to this argument, counsel for Missouri maintained that Chicago's discharges were different in character from those of Missouri's cities because they involved the use of artificial means to discharge waste into a different watershed. Missouri argued that its cities were simply exercising their right to discharge waste into riparian waters.

D. *The Court's Decision*

A month and a half after oral argument, the Supreme Court issued its decision on February 19, 1906. In a unanimous decision authored by Justice Holmes, the Court denied Missouri's request for an injunction and dismissed the state's complaint.[47] Justice Holmes first addressed the question of what law the Court should apply. He noted that the Constitution extends the judicial power to controversies between states and that it gives the Court original jurisdiction over cases in which a state is a party. But the Court still "must determine whether there is any principle of law and, if any, what, on which the plaintiff can recover."[48] Holmes explained that the necessity to resolve disputes between states does not authorize the court to take "the place of a legislature." However, "[s]ome principles it must have power to declare."[49] But since these principles can hardly be found in "the words of the Constitution" and cannot lightly be reversed, the Court must approach them with "great and serious caution" in deciding whether a state has proved its case.[50] The Court should be more reluctant to use its equitable powers in disputes between states than lower courts are in responding to requests for equitable relief in suits involving parties within the same jurisdiction. Holmes declared that when states are involved, "Before this court ought to intervene the case should be of serious magnitude, clearly and fully proved, and the principle to be applied should be one which the court is prepared deliberately to maintain against all considerations on the other side."[51]

While imposing an enhanced burden of proof on plaintiffs suing states, Holmes acknowledged the importance of recognizing the special character of cases involving allegations of environmental harm.

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[47] Missouri v. Illinois, 200 U.S. 496 (1906).
[48] Id. at 519.
[49] Id.
[50] Id. at 520.
[51] Id. at 521.

> At the outset we cannot but be struck by the consideration that if this suit had been brought fifty years ago it almost necessarily would have failed. There is no pretense that there is a nuisance of the simple kind that was known to the older common law. There is nothing which can be detected by the unassisted senses – no visible increase of filth, no new smell. . . . The plaintiff's case depends upon an inference of the unseen. It draws the inference from two propositions. First, that typhoid fever has increased considerably since the change and that other explanations have been disproved, and second, that the bacillus of typhoid can and does survive the journey and reach the intake of St. Louis in the Mississippi.[52]

While accepting "the now prevailing scientific explanation of typhoid fever to be correct," Holmes noted that beyond that assumption everything else in Missouri's case "is involved in doubt."[53] Experts for the two sides disagreed fundamentally on whether the typhoid bacillus could survive the journey to St. Louis. Even assuming that St. Louis had demonstrated a real increase in the number of typhoid cases, there had not been evidence of an increase in the disease along the banks of the Illinois River which would be expected if sewage in the drainage canal was the true cause of the increase. There was very strong evidence that St. Louis ultimately would have to invest in an expensive filtration system in any event because of pollutants from Misouri's own cities. Holmes cautioned Missouri that if its lawsuit succeeded, it would probably find itself a defendant in similar cases brought by downstream states.

The Court rejected Missouri's attempt to distinguish Chicago's discharges as the product of a foreign watershed, noting that the natural features separating the two watersheds were very small and that Congress already had approved the construction of a shipping lane connecting them. Thus, Holmes concluded that Missouri had not come close to making a sufficient case for an injunction based on the evidence it presented.

Two factors seemed most important to the Court's decision to reject Missouri's nuisance claim: the weakness of the proof of injury and the fact that Missouri's own cities discharged untreated sewage into the Mississippi River. While Justice Holmes indicated that the latter need not necessarily preclude success on the nuisance claim, he suggested that it justified requiring a more rigorous showing that the harm was caused by Chicago's sewage rather than sewage from other Missouri cities.

E. *The Water Diversion Litigation*

Although it succeeded in defeating Missouri's lawsuit, the legal problems caused by Illinois's operation of the drainage canal were far from over. As the quantities of sewage discharged into the Illinois River by the Sanitary District increased, the District sought to divert more water from Lake Michigan to flush out the greater volumes of sewage in the drainage canal. But in both 1907 and 1913 the Secretary of War refused the District's requests to increase authorized diversions from the permit limit of 4,167 cubic feet per second. In defiance of these

[52] Id. at 522-23.
[53] Id. at 523.

limits, the Sanitary District increased its diversions from 2,541 cubic feet a second in 1900 to 5,751 in 1909 and ultimately to 8,500. The United States brought suit to enforce the permit limits against the District in federal district court in Chicago. The trial judge delayed ruling on the merits of the federal enforcement action for nearly seven years, before ruling in favor of the United States. The Sanitary District appealed the court's decision that it had violated the permit.

While the District's appeal was pending, in 1924 three states sought to invoke the Supreme Court's original jurisdiction to sue Illinois and the Sanitary District for diverting too much water from Lake Michigan. Wisconsin, Michigan, and New York argued that Illinois had harmed navigation by diverting too much water from Lake Michigan in order to flush sewage out of the drainage canal. The plaintiff states claimed that Illinois's diversions had lowered the levels of Lakes Michigan, Huron, Erie, and Ontario, their connecting waterways, and the St. Lawrence River more than six inches, causing serious injury to their citizens and property. The states claimed that Illinois and the Sanitary District had acted in violation of their federal permit in order to flush out Chicago's sewage. They asked for an injunction restraining the diversion of water from Lake Michigan and the dumping of Chicago sewage into the waterways.

Ironically, Illinois was joined as a defendant by the state of Missouri, as well as Kentucky, Tennessee, Arkansas, Mississippi and Louisiana, who intervened as defendants in support of Illinois because of their interest in keeping as much water as possible flowing through the drainage canal to the Mississippi River. Wisconsin and the other plaintiffs asked the Court to prohibit Chicago from continuing to take 8,500 cubic feet of water per second from Lake Michigan.

In their defense, Illinois and the Sanitary District denied that their diversions of water from Lake Michigan had caused any injury. They argued that the diversions were necessary to facilitate navigation and that they had been authorized by the Secretary of the Army. Illinois and the Sanitary District also accused the plaintiff states of laches for not having complained previously about construction of the drainage canal.

In January, 1925 the U.S. Supreme Court upheld the federal district court decision holding that the Sanitary District had violated its federal permit and enjoined the District from diverting more than 4,167 cubic feet of water per second from Lake Michigan.[54] While the Court decreed that its injunction would take effect in 60 days, it indicated its decision was without prejudice to the authority of the Secretary of War to issue a new permit to the Sanitary District. On March 3, 1925, the Secretary of War amended the permit to authorize the diversion from Lake Michigan of 8,500 cubic feet of water per second, conditioned on the District's agreement to commence immediately to use artificial processes to treat its sewage under the supervision of the United States District Engineer so that the sewage of at least one-third of Chicago's population would be treated by the end of 1929.

The Supreme Court agreed to hear the multistate original action against Illinois and the Sanitary District. The Court appointed former Justice Charles Evans Hughes, who had just finished serving as Secretary of State in the Harding and Coolidge administrations, to serve as

[54] Sanitary District of Chicago v. United States, 266 U.S. 405 (1925).

special master. The Court instructed Hughes to take evidence and to make findings of fact and conclusions of law in support of a recommended decree.

After conducting extensive hearings, Hughes submitted his report to the Court on November 23, 1927. He found that Chicago's diversion of water from Lake Michigan had lowered the levels of Lakes Michigan and Huron by six inches and Lakes Erie and Ontario by five inches, causing substantial damage "to navigation and commercial interests, to structures, to the convenience of summer resorts, to fishing and hunting grounds, to public parks and other enterprises, and to riparian property generally," though not to agriculture.[55] Hughes concluded that there was no question but that the primary purpose of the diversion was to dispose of Chicago's sewage, rather than to improve navigation.

The Court heard oral argument on exceptions to the report on April 23 and 24, 1928. However, it was not until the following Term of the Court, on January 14, 1929, that the Court issued its decision. The Court upheld the claim that Illinois and the Sanitary District had diverted too much water from Lake Michigan causing damage to the plaintiff states. In an opinion by former President William Howard Taft, now serving as Chief Justice, the Court rejected Illinois's claim that it could not be held liable because the diversion was authorized by Congress.[56]

The Court noted that if the Secretary of Army had not granted a temporary increase in the permit limit, "the port of Chicago almost immediately would have become practically unusable, because of the deposit of sewage without a sufficient flow of water through the canal to dilute the sewage and carry it away."[57] Thus, "the validity of the Secretary's permit derives its support entirely from a situation produced by the Sanitary District in violation of the complainants' rights, and but for that support complainants might properly press for an immediate shutting down by injunction of the diversion, save any small part needed to maintain navigation in the river."[58] The Court concluded that the plaintiff states were entited to equitable relief, while noting that the need to avoid creating a hazard to sanitation in Chicago required that the Sanitary District be afforded reasonable time to develop other means of sewage disposal. The Court referred the case back to the special master to hear evidence concerning what form the decree should take.

Special master Charles Evans Hughes then heard evidence concerning the kind of sewage treatment works the Sanitary District could construct to reduce its diversions of water from Lake Michigan. The special master recommended an ambitious plan requiring the District to construct sewage treatment works as well as gates that would prevent the Chicago River from reversing direction and spilling sewage into Lake Michigan during storms. He prepared a new report recommending that the Sanitary District's diversions from Lake Michigan be reduced to 6,500 cubic feet per second by July 1, 1930, to 5,000 cubic feet per second by the end of 1935, and to

[55] Wisconsin v. Illinois, 278 U.S. 367, 408 (1929).
[56] 33 USCA § 403 required a permit from the Secretary of Army for such diversions.
[57] Wisconsin v. Illinois, 278 U.S. 367, 417 (1929).
[58] Id. at 418.

1,500 cubic feet per second by the end of 1938. After reargument on exceptions, the Court adopted the special master's recommendations on April 14, 1930.[59]

In an opinion for a unanimous Court, Justice Holmes explained the need for Illinois to take extraordinary measures to stop the harm it was causing by its diversion of water from Lake Michigan. Holmes explained that the Court had "only to consider what is possible if the State of Illinois devotes all its powers to dealing with an exigency the magnitude of which it seems not yet to have fully awaked. It can base no defences upon difficulties that it has itself created. If its Constitution stands in the way of prompt action it must amend it or yield to an authority that is paramount to the State."[60] Holmes declared that "there is a wrong to be righted, and the delays allowed are allowed only for the purpose of limiting, within fair possibility, the requirements of immediate justice pressed by the complaining States. These requirements as between the parties are the constitutional right of those States, subject to whatever modification they hereafter may be subjected to by Congress acting within its authority."[61]

The Court adopted the schedule recommended by the special master, rejecting an effort by the plaintiff states to require Chicago to close the drainage canal entirely, a demand Holmes described as "excessive upon the facts in this case."[62] Citing *Missouri v. Illinois*, Holmes observed that "the claims of the complainants should not be pressed to a logical extreme without regard to relative suffering and the time during which the complainants have let the defendants go on without complaint."[63]

A decree ordering the defendants to comply with the Court's timetable was issued on April 21, 1930.[64] The decree also required Illinois and the Sanitary District to file semiannual reports beginning on July 1, 1930 so that the Court could monitor Chicago's progress in complying with the decree. The plaintiff states soon returned to the Supreme Court when they learned that the Drainage District had postponed construction of the sewage treatment works and of the gates to regulate the flow of the Chicago River. The Supreme Court appointed another special master in 1932 to determine the reasons for the delay. The special master found that the delays were due to an inexcusable lack of effort on the part of the defendants. While the Sanitary District maintained that it could no longer sell its bonds and now had no financial resources to proceed with the promised construction, the master asked the Court to require the state of Illinois to provide funds so that the project could proceed.

In an opinion for a unanimous Court by Chief Justice Charles Evans Hughes, who had joined the Court shortly after serving as special master in the earlier proceedings in the case, the Court excoriated the defendants for their delays. The Court declared that it was the "special responsibility of the state of Illinois" to provide funds for the construction :

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[59] Wisconsin v. Illinois, 281 U.S. 179 (1930). Because new Chief Justice Charles Evans Hughes, who had been confirmed by the Senate on February 13, 1930, had been the author of the special master's report, he took no part in the consideration or decision in the case.

[60] Id. at 197.

[61] Id.

[62] Id. at 267.

[63] Id. at 267-68.

[64] Wisconsin v. Illinois, 281 U.S. 696 (1930).

> In deciding this controversy between states, the authority of this court to enjoin the continued perpetration of the wrong inflicted upon complainants necessarily embraces the authority to require measures to be taken to end conditions within the control of defendant state, which may stand in the way of the execution of the decree.[65]

The Court ordered Illinois "to take all necessary steps" to ensure that funds were secured for prompt completion of the project.

II. GEORGIA v. TENNESSEE COPPER

In 1904, three years after Missouri filed the first interstate nuisance action in the Supreme Court against Illinois, Georgia invoked the Supreme Court's original jurisdiction in a lawsuit to stop transboundary air pollution from two copper smelters. The smelters were located in the Ducktown basin, an area of rolling hills in the extreme southeast corner of the State of Tennessee bordered by Georgia to the south and North Carolina to the east. The basin, which takes its name from Chief Duck, a famous Cherokee chief, ranges from six to eight miles wide at altitudes that vary from 1,000 to 3,300 feet. The area had been home to the Cherokee Indians, who were the first copper miners in the region,[66] until they were forcibly relocated to Oklahoma in 1838 in the infamous "trail of tears".[67]

In 1890, a British company calling itself the Ducktown Sulphur, Copper & Iron Company (hereinafter the "Ducktown Company") took over the holdings of the bankrupt Union Consolidated Mining Company and reopened a copper mine that first had been opened in 1853. The Ducktown Company built large heap roasting sheds near the mine and opened two smelters in 1893 and 1894.

In 1899 New York investors organized the Tennessee Copper Company, which acquired mines and other assets formerly owned by the Pittsburgh & Tennessee Company. The new company built a smelter just north of the Georgia border at Copperhill and commenced operations in 1900. In May 1901, the company started roasting ore in large roasting piles. The roasted ore then was smelted at Copperhill.[68] The Tennessee Copper Company became the largest copper mining concern east of Michigan.

A. *Private Nuisance Actions Against the Copper Smelters*

Because the copper ore found in the Ducktown basin contained high concentrations of sulphur, the companies initially had to roast it to reduce impurities prior to processing the ore in smelters. Horrendous emissions of sulphur were generated by the open roasting method of

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[65] Wisconsin v. Illinois, 289 U.S. 395, 406 (1933).
[66] Carl Heinrich, The Ducktown Ore Deposits and the Treatment of the Ducktown Copper Ores, 25 Am. Inst. Min. Eng. Trans. 173 (1895).
[67] Cherokee Nation v. Georgia, 5 Peters 1 (1831); Worcester v. Georgia, 6 Peters 515 (1832). See R. Kent Newmyer, Chief Justice John Marshall's Last Campaign: Georgia, Jackson, and the Cherokee Cases, 23 J. Supreme Ct. Hist. 76 (1999).
[68] A Tribute to the Miners: Copper Basin Ore Mining 1843-1987.

treating copper ore. This method involved the placement of "the green ore, broken up, on layers of wood, making large open-air piles, called 'roast piles'" These piles then were "ignited for the purpose of expelling from the ore certain foreign matters called 'sulphurets.'"[69] Burning roast piles emitted large volumes of smoke that engulfed the countryside.

Smoke and sulphur emissions from the roasting piles quickly spawned considerable litigation. The first nuisance lawsuits against the smelters reportedly were filed in 1895.[70] Dozens of lawsuits were filed seeking damages for harm caused by the sulphur emissions. Some were successful in obtaining modest damages from the companies.[71] Three cases seeking to enjoin emissions from the smelters ultimately reached the Tennessee Supreme Court. In *Madison v. Ducktown Sulphur, Copper & Iron Co*[72] the court considered whether to enjoin emissions from the smelters. The court noted that there was no alternative method of roasting copper ore nor any more remote place for the companies to locate their operation. It then framed the ultimate issue as involving the following stark choice:

> Shall the complainants be granted, in the way of damages, the full measure of relief to which their injuries entitle them, or shall we go further, and grant their request to blot out two great mining and manufacturing enterprises, destroy half of the taxable values of a county, and drive more than 10,000 people from their homes? . . .
>
> In order to protect by injunction several small tracts of land, aggregating in value less than $1,000, we are asked to destroy other property worth nearly $2,000,000, and wreck two great mining and manufacturing enterprises, that are engaged in work of very great importance, not only to their owners, but to the State, and to the whole country as well, to

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[69] Madison v. Ducktown Sulphur, Copper & Iron Co, 83 S.W. 658, 659 (1904).
[70] R.E. Barclay, The Copper Basin – 1890 to 1963 (1977) at 9.
[71] In Ducktown Sulphur, Copper & Iron Co. v. Barnes, 60 S.W. 593 (1900), the Tennessee Supreme Court upheld the right of plaintiffs in private nuisance actions to recover damages against the Ducktown Company. While there is no reported decision documenting what happened on remand, a letter in the files of the Ducktown Company provides the answer. The letter, dated January 14, 1903, from the company's general manager, W.H. Freeland, to the company's London headquarters reports that a check had been sent that day to the plaintiffs's attorney, Judge James G. Parks, to cover payment of the damages and costs awarded in the case. Plaintiff William Madison received $100.00 in damages, Margaret Madison $1.00, and John A. Fortner $92.50. R.E. Barclay, The Copper Basin - 1890 to 1963 (1977), at 73.
[72] 113 Tenn. 331, 83 S.W. 658 (1904).

depopulate a large town, and deprive thousands of working people of their homes and livelihood, and scatter them broadcast.[73]

The court expressed sympathy for the landowners' plight and for the "proposition that no man is entitled to any more rights than another on the ground that he has or owns more property . . ."[74] But it concluded that when rights were in conflict "the law must make the best arrangement it can." Thus, the court found that this required that the plaintiffs be given only damages and not an injunction. The court refused the injunction on the condition that the companies agree to pay each of the plaintiffs whatever damages they had incurred up to the date of filing their lawsuits.

B. *Georgia's Interstate Nuisance Action*

Even as the private nuisance cases were working their way through the Tennessee courts, citizens in Georgia were requesting the aid of their own state authorities in combating pollution from the copper companies. In 1903 Georgia citizens residing in Fannin, Murray, Gilmer, Union and Towns counties complained to the Georgia legislature that "the timber, fruits, and agricultural interests in these counties had suffered great and irreparable damage on account of fumes produced by the smelting of copper ore" in Ducktown.

Responding to these and other complaints, the Georgia Legislature on August 17, 1903 enacted the following resolution:

> WHEREAS, it has been represented that great and irreparable damage has been, and is being, done to the timber, fruits and agricultural interests in the counties of Murray, Gilmer, Fannin, Union and Towns, in the northern part of the State, through and by the smoke and fumes produced by the smelting of copper ores at the copper mines in Ducktown vicinity, in Polk County, State of Tennessee; and WHEREAS, Some steps should be taken looking toward the suppression of this evil; therefore, be it Resolved, by the General Assembly of the State of Georgia, That a commission composed of five members, three of whom shall be made up as follows: The Commissioner of Agriculture, State Chemist, State Geologist, and two private citizens, to be named by the Governor of this State, in the locality affected, whose duty it shall be to examine into the facts herein referred to, and that in reasonable time report to the Governor of said State fully as to the damage already done and the damage likely to be done, and such other suggestions as they may deem proper to make in the premises, and that the Governor on receiving said report be authorized, as in his judgment, to take such steps as shall be deemed proper and necessary to correct this evil, and to prevent further damage.

Georgia Governor J.M Terrell promptly implemented the resolution by appointing a commission to investigate the effects of pollution from the copper plants in the Ducktown basin. Members of the commission included State Geologist W.S. Yeates, State Chemist John M.

[73] Id., at 666-667.
[74] Id. at 667.

McCandless, State Commissioner of Agriculture J. H. Witzel and two private citizens (O.B. Stevens and W.E. Candler). The governor also asked for an independent report from Wilmon Newell, Georgia's State Entomologist. Newell reported that the copper ore in the Ducktown basin is "roasted under open sheds, the smoke there from containing a large percentage of sulphurous acid." As a result of this practice, "this sulphurous acid has removed from the country, within a radius of two miles, all traces of vegetation, save an occasional patch of Bermuda grass, and that all forest trees within four miles of the refinery are destroyed and the earth devoid of practically all vegetation except broom-sedge." At a "distance of from five to six miles 50 to 75 percent of all timber is dead, and that the effects of the sulphurous acid smoke are plainly noticeable at points ten to twelve miles from the refinery." Newell conclude, "That the area of devastation is steadily increasing there can be no doubt, and that the sulphurous acid from the copper refinery is the destructive agent is self-evident." Because it was late in the season and several severe frosts had occurred, the entomologist could not determine the effect of the emissions on growing crops, but he opined that it "must amount to ruin" as "evidenced by the fact that in the area already denuded of forest growth no attempt is made to grow crops." This "area is in fact totally abandoned except by the employees of the copper-mining companies."

Newell warned of potentially serious long-term consequences of this destruction. "Within a radius of ten miles (in Georgia territory at least) all merchantable timber, i.e., timber suitable for lumber, has already been destroyed and a continuance of present conditions will within a few years convert this territory into a barren desert." Forest protection "is a matter of moment, not only to the inhabitants of the immediate locality, but to the State at large. Removal of the forest means rapid soil erosion and makes the land utterly worthless for agriculture. Forest, even of young growth, tend to consume moisture and prevent floods, while their absence conduces to extremes of flood and drought." Newell dismissed any suggestion that the trees had been killed by other causes than the smelter emissions, concluding that "the devastation can be traced to no other agency than the sulphur fumes from the copper refineries at Ducktown and Isabella, Tenn."

Newell did note that the Tennessee Copper Company was "doing far more damage" than the Ducktown Company because "by roasting their ore in open sheds they turn loose enormous volumes of sulphurous acid." This comment reflects the fact that the Ducktown Company had stopped heap roasting its copper ore in 1902.

On November 20, 1903, the Georgia Governor's Commission made its report. The report concluded that "the copper reduction works as at present conducted at Ducktown constitute not only a nuisance, but have been, and are hourly, daily damaging and destroying vegetable life for a very considerable distance away from their location, and for miles within the boundaries of this State. So much so, that this damage is incalculable. If said works are to be continued, a large area of farming and timber country within the limits of the State will certainly be totally destroyed and lost to the present owners." The Commission recommended that if the companies refused to abate this nuisance, the Governor should use all known means "to force them to do so" under the power of law. It concluded that it would be "better that this industry should be entirely annihilated than that the present intolerable condition should continue." The Commission recommended that Georgia's attorney general take legal proceedings to abate the nuisance.

After receiving the Commission's report, Georgia Governor J.M. Terrell wrote to Governor James B. Frazier of Tennessee. He noted that he appointed the commission pursuant to the Georgia Legislature's resolution and he submitted a copy of the commission's report for the governor's consideration. "The State of Georgia has become interested in the question because of the great damage done to a large area of public domain and a threatened total destruction of all vegetation within thirty or forty miles of [the smelters]. The report makes an alarming state of affairs, and as Governor of Georgia I conceive it my duty in pursuance of said resolution to call your attention thereto, and to request of you as Governor of Tennessee to take steps to prevent a continuation of the methods used for smelting ores by these corporations."

While not contesting the damage done by the smelters to citizens of Georgia, Tennessee Governor James B. Frazier refused to intervene, arguing that the courts were the only appropriate avenue of redress. On December 4, 1903, he responded:

> I, of course, regret it if in the operation of any industry in Tennessee a citizen or citizens of a neighboring State should be injured in their persons or property, but conceding that the operation of these works do damage the property of the citizens of Georgia, I know of no power vested in me as Governor of Tennessee to interfere and prevent such injury. If the citizens of Georgia are injured by the operation of these works by their owners, either in their person or their property, the courts of Tennessee and possibly of the United States are the only tribunals that I know of in which redress can be sought.

Governor Frazier noted that the companies state that "the extent of the injury done by the operation of these industries has been very greatly exaggerated," but he claimed to "express no opinion" on this. He did say that "the persons operating these mines are careful and successful business men, and that they have made expensive experiments, and are still doing so, with the view of devising some means by which the copper ores can be reduced and smelted without emitting the sulphurous smoke about which complaint has been made," though he indicated that he did not know "what success they have achieved." Overall, his attitude was that any injuries were part of the necessary price of progress.

> The operation of great and growing industries, such as these Tennessee Copper Mines, necessarily carries with it some inconveniences and possibly injury to those situated near to the works, as well as the numerous advantages which they bring. I am informed that the lands in both Tennessee and in Georgia, lying near to these works, would in the absence of the copper mines, not be of very great value, and that the operation of the mines affords work at remunerative wages to a large number of people living in that vicinity.

While expressing "very great regret" if anyone in Georgia is injured, the Tennessee governor stated that "I know of no power vested in me to interfere in this matter."

After receiving Governor Frazier's letter, Governor Terrell promulgated an executive order directing that Georgia file a lawsuit against the copper smelters. In 1904, Georgia asked the U.S. Supreme Court for leave to file a bill of complaint against both the Tennessee Copper

Company and the Ducktown Sulphur, Copper & Iron Co. The motion was filed by Georgia Attorney General John C. Hart, assisted by Special Counsel Ligon Johnson, an expert in smelter litigation who later was employed by the U.S. Department of Justice to sue smelters that damaged public lands in the western United States. Georgia sought to invoke the Supreme Court's original jurisdiction, citing the Court's decision in 1901 to hear Missouri's complaint against Illinois. Georgia alleged that the two companies had created both public and private nuisances to the detriment of the state and its citizens.

Georgia's filing of a complaint in the U.S. Supreme Court quickly got the companies' attention. Officers of both companies agreed to meet with Georgia officials in Atlanta to discuss the smelter emissions problem. While preparing for that meeting, J. Parke Channing, president of the Tennessee Copper Company, told W.H. Freeland, the general manager of the Ducktown Company, that Tennessee Copper would emphasize to state officials that it was about to build a tall smokestack that would greatly reduce the damage. "Freeland strenuously objected to saying anything about smoke stacks" and threatened not to attend the meeting unless Channing agreed not to do so.[75] Freeland's rationale was that the Ducktown Company did not want to be forced also to build a tall smokestack because it already was at a substantially higher elevation. Moreover, the Ducktown Company believed that Georgia would not concentrate on its plant because it was smaller and three miles further removed from the border.[76]

After discussions with Georgia officials, both companies agreed permanently to abandon the open heap roasting process in return for Georgia's agreement to dismiss its lawsuit. Agreement was reached and Georgia's initial complaint was dismissed. The stipulation of dismissal specified that the companies agreed not to return to this method of roasting their ores and that the dismissal shall not operate to prejudice the rights of any of the parties beyond the terms of the agreement.

As noted above, the Ducktown Company already had abandoned open heap roasting following the company's accidental discovery in 1902 of the pyritic or semipyritic smelting process for smelting green ores without prior roasting. By contrast, Tennessee Copper was adding a third furnace and putting in 150 additional roasting sheds at its Burra Burra yards as late as Spring 1903.[77]

In compliance with the agreement with the state of Georgia, on March 30, 1904, the foreman for Tennessee Copper instructed his employees that no more roast piles were to be lighted after 7:30 p.m. on March 31st. The ore heaps already burning then did not completely die out until the latter part of the year.

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[75] Barclay, supra, at 80.

[76] Tensions between Tennessee Copper and the Ducktown Company were evident with the former finding it hard to tell whether the smaller company was trying to exonerate itself or to indict the larger company and Freeland frequently complaining about the larger company's "high-handed tendencies." Id. at 82.

[77] Id. at 36.

Despite the end of open heap roasting, citizens of Georgia continued to complain about the smoke from the copper smelters. For example, W. H. Shippen, president of Shippen Bros. Lumber Company of Elijay, Georgia, wrote the U.S. Bureau of Forestry on Dec. 22, 1904:

> The situation in many parts here is appalling in the extreme, and certainly merits the action of both Federal and State aid in its suppression. If the matter be not abated shortly, the whole country will be ruined beyond redemption. I have known whole districts here to be blighted in a single night, such as would be occasioned by a heavy hoar frost, and every one in position to know says without exception that the present process is far more destructive than the old ever was.

At the request of Georgia state officials, in late December 1904, the U.S. Bureau of Forestry conducted an investigation of the region within six to fifteen miles from Ducktown. In a report issued in 1905, the Bureau concluded that the Ducktown area continued to suffer devastation from the effects of sulphur emissions even though the copper ore that formerly was roasted under open sheds was now reduced in furnaces at Ducktown and Isabella. The report, written by Alfred K. Chittenden, Assistant Forest Inspector, U.S. Bureau of Forestry, notes that the furnaces that had replaced the roasting sheds emitted enormous quantities of sulphur that kills vegetation. Because the ore that is roasted "contains about 3 per cent copper and 30 per cent of sulphur" and twenty to twenty-five million pounds of copper are produced a year, "[i]t can readily be seen what an enormous amount of sulphur is therefore set free.[78]

Moreover, the tall smokestack that Tennessee Copper had erected subsequent to dismissal of Georgia's initial complaint actually was spreading the pollutants over even larger areas of Georgia:

> When the ore was roasted, as formerly, under open sheds at the mines, a vast amount of smoke was set free near the ground, and the result was the total destruction of all vegetation in the immediate neighborhood. The ore is now reduced in furnaces with chimneys from 200 to 300 feet in height. The smoke and fumes are thus set free at a higher elevation and in stronger air currents. They are therefore carried to much greater distances before settling. The sulphur fumes can be plainly smelt at a distance of over fifteen miles if the wind is in the right direction. The effect of these tall chimneys is to take the smoke away from Ducktown and to scatter it more extensively over the entire country. Areas that have hitherto remained untouched are now being damaged by the fumes. Timberland owners within thirty miles are deeply concerned.

While noting that it is "impossible to determine whether single trees had been killed by the sulphur fumes or by some other cause," he deemed it "highly improbable" that "so many trees should be killed by natural causes."

[78] Alfred K. Chittenden, Report on a Preliminary Examination of the Effects of the Ducktown Sulphur Fumes on the Forests in Polk County Tennessee (1905).

Chittendon warned that the number of dead trees "will increase with the use of the tall chimneys recently erected" because they "will tend to scatter the fumes over a wider territory." It may take "considerable time before all growth is killed at such distances," but "it will not be long before all merchantable timber, especially white pine, is destroyed." Deforestation also was contributing to rapid erosion. "Within several miles of the furnaces there is at present no vegetation," the land has been "quickly rendered absolutely worthless" and "[d]eep gullies and slides are formed, water run-off becomes rapid, and great fluctuations must be expected in streams after every rain."

Chittendon's report concluded that "[t]he old method of open roast heaps has already destroyed all vegetation in the immediate neighborhood; the new method will extend the damage." He noted that the only way to get rid of the sulphur would be by oxidation into sulphuric acid, though it is doubtful whether this could be made to pay.

On August 15, 1905, the Georgia Legislature passed a new resolution calling for the appointment of a commission to investigate the damage done by the smelter emissions. This commission, whose membership was similar to that of the first,[79] issued its report to Governor Terrell on August 30. The Commission reported that it had visited the Ducktown area on Aug. 28th and 29th, 1905 and that it had inspected a considerable portion of it. "We found conditions there alarming in the extreme, and we haven't words at our command to impress on your Excellency the instant, urgent and imperative need of immediate action for relief, if that part of our State is to be saved to its present owners and our commonwealth." The view from high ridges of the landscape shows that "much of the foliage was brown or scar[r]ed" and crops visibly affected. "It is our unanimous opinion that the new process as adopted by the Tennessee Copper Company is proving, and has proven far more injurious to vegetation, fruit, farming and the timber interests of this portion of our State than the old process ever was."

The Commission reported that it had visited the offices of the Tennessee Copper Company in Isabella to discuss remedies, but that they were provided with "no definite information." Company officials seemed more concerned with opening four additional furnaces. After repeating their prior conclusion that it would be "better that this entire industry should be completely annihilated than that the present intolerable condition should continue," the Commission recommended that the Governor ask the Attorney General immediately to begin legal proceedings to abate this nuisance.

On September 21, 1905, Governor Terrell ordered the attorney general to renew the state's lawsuit. On October 4, 1905, Georgia renewed its bill of complaint in the U.S. Supreme Court. The complaint asked for both a preliminary and perpetual "writ of injunction properly restraining and enjoining the defendants . . . from maintaining, operating or directing or permitting upon their land or premises the operation or maintenance of any oven, roast heap, pit, furnace or appliance, generating or giving forth any of the smoke, gases, fumes or vapors . .

[79] The Commission included Commissioner of Agriculture T.G. Hudson, State Chemist John M. McCandless, State Geologist W.S. Yeates, and Will H. Shippen (president of Shippen Bros. Lumber Company of Ellijay, Georgia) and Judge J.R. Chastain.

.damaging, destroying or injuring the property of [Georgia] or its citizens, or causing or producing any physical or bodily harm, injury, discomfort or inconvenience to the citizens of [Georgia] upon the territory or lands" of Georgia. The state also sought a temporary injunction and restraining order to prevent the Tennessee Copper Company from bringing four new furnaces on line. Attached as exhibits to the state's complaint were the reports of the Georgia governor's commissions and the report by the U.S. Bureau of Forestry.

On October 23, 1905, the Supreme Court granted Georgia motion for leave to file a bill of complaint. The Court ordered the companies to show cause why a temporary restraining order should not be granted by December 4, 1905. On November 27, 1905, Tennessee Copper filed its demurrer and brief. Tennessee Copper Company emphasized that it too had abandoned the open heap roasting method in 1904. It conceded that it was possible that its open heap roasting prior to 1904, had caused "some slight damage" to property in Georgia immediately adjacent to the state line, but it characterized any such damage as "trivial in character" and asserted that it had received "very few complaints" from the owners of such property.[80]

Tennessee Copper noted that it soon would begin using new furnaces and a new and larger smokestack, 325-feet high and 20 feet in diameter. While these needed to operate for five to six months before determining how well they were working, the company believed that this "will entirely eliminate all complaints on the part of property holders" in the community. Tennessee Copper maintained that it always had used the most advanced technology, "the latest and best known scientific methods in the mining and smelting of its ores," employing "only the most skillful experts." It also claimed that the Ducktown basin was uniquely well suited as a place to mine and smelt copper ores because:

> for miles around the land is practically valueless for agricultural purposes, is almost sterile in its character and the timber is scrubby and unmerchantable, and in fact the only value to the lands in said entire Ducktown basin and surrounding territory, consists in the minerals contained therein, chiefly copper, and the only use to which the land can properly be put is the mining and reducing of such minerals. In fact no region in the world, so far as the respondent knows, is better adapted to the mining and smelting of copper ores and less susceptible to generate damages from gases thereupon, than the aforesaid Ducktown basin.

The company believed that its trump card was the economic argument that had persuaded the Tennessee Supreme Court to eschew an injunction. Before copper production resumed in Ducktown after the "period of suspension," only 222 people "eked out a bare existence from the soil." Now the basin contained "a thriving, contented community of from ten to fifteen thousand people wholly dependent upon the continued operation of the copper industry for their livelihood." Tennessee Copper and the Ducktown Company together employed approximately 3,000 men with a total payroll in excess of $100,000 per month. If an injunction were issued, an "entire population will be forced to abandon their homes and abandon the community," the

[80] Answer of Tennessee Copper Co., at 3.

companies will be "broken up and disbanded, and where now is a healthy, happy and prosperous community would be left but the ruins of the abandoned towns."

Tennessee Copper also argued that it would be unfair to shut down its operations after it had just spent $150,000 to build new stacks and a new method of smelting. Georgia "stood by without protest during all these years and allowed respondent to continue to invest millions of dollars in the erection of its plants and houses for its employees." Thus, "it would now be inequitable to allow the plaintiff, after acquiescing in and encouraging this investment on the part of both defendants, to seek the injunctive relief asked for, especially when both the plaintiff and her citizens have full, adequate and complete remedy at law."

Tennessee Copper explained that it had installed four new smelting furnaces because the transition to the pyritic smelting method reduced the net capacity of its three existing furnaces from 1200 tons to 800 tons of ore per day. By adding four more furnaces and three more blowing engines, the company was now capable of treating 1,600 to 1,800 tons of ore per day.

Georgia's request for a preliminary injunction was denied by the Court. However, because the Court recognized that there was reason to fear irreparable harm, it scheduled an early hearing for the case and ruled that the parties could try the case on the basis of affidavits. More than 2,000 affidavits ultimately were submitted to the record. Georgia submitted the report of yet another commission that examined the Ducktown region in late 1906 after Tennessee Copper's new furnaces and tall stacks had been in operation for six months. The report concluded that the tall stacks had been counterproductive to the interests of Georgia residents. It found that there had been a vast increase in the damage caused by the smelter emissions, which now extended over a much larger territory. Georgia's conclusions were supported by testimony from three chemists, eight foresters, four entomologists, and a geologist. It submitted photographs to document the effects of the pollution, including the destruction of vegetation and attendant soil erosion. Affidavits were presented to document the destruction of crops, gardens, orchards, forests, and farms and injuries to roads and highways. More than 1,500 witnesses testified that the emissions had caused them some damage, including harm to their vocations and means of livelihood.

Tennessee Copper submitted numerous affidavits attesting that tall stacks had succeeded in dissipating pollution problems at smelters around the world. The company indicated that it had constructed its new 325-foot smokestack only after consulting with scientific experts from Germany. The new stack was designed to reflect the best current thinking in pollution control.

Lurking in the background was the question of what technological advances were possible for controlling sulphur emissions from copper smelters. Tennessee Copper maintained that it always had been receptive to the idea of recycling waste gases and turning them into merchantable sulphuric acid. Company officials previously had bemoaned the fact that the heap roasting method allowed a major portion of the sulphur contained in the ore to escape in the roast yards where it could not be collected. They noted that the sulphur that escaped during smelting of the roasted ores "was in such an attenuated form that any hope of its recovery was futile." With direct smelting of the ore in the blast furnaces the gases, as expected, "were much richer in

sulphur than the old method because all of the sulphur was being emitted from the furnaces." As a result, Tennessee Copper stated that it was conducting tests and experiments "to determine whether it is technically possible to produce commercial sulphuric acid from the furnace gases."

Georgia suggested that technology existed to capture the sulphur released by smelters and to use it to make sulphuric acid. Responding to this claim, a witness for Tennessee Copper stated that from his knowledge of all the copper smelting plants in the U.S., Canada and Mexico "at the present day not one of such works is producing commercial sulphuric acid even in small or limited quantities." While stating that the company hopes to be able to do so in future, the witness maintained that "it has never been practically demonstrated." Thus, he concluded that "should a chamber plant be built to utilize a portion of the gases from the furnaces, it would still be in the nature of a huge experiment." The company did not acknowledge that it already had embarked on precisely such an experiment by commencing construction of a massive chamber works to produce sulfuric acid.

B. The *Georgia v. Tennessee Copper Co*. Decision

In February, 1907, the Court heard final arguments on Georgia's complaint. Two days of oral argument were held on February 25th and 26th. Following the argument, the Court took two and a half months to prepare its opinion, which was released on May 13, 1907.[81] Writing for the Court,[82] Justice Holmes began by noting that if the "decision turned on any nice question of fact," it would have been unsatisfactory to permit it to be tried on the basis of affidavits. However, in light of the ultimate outcome of the case, the Court deemed it unlikely that this procedure had prejudiced either party.

Justice Holmes emphasized that this was not a lawsuit between private parties. "This is a suit by a State for an injury to it in its capacity of quasi-sovereign. In that capacity the State has an interest independent of and behind the titles of its citizens, in all the earth and air within its domain. It has the last word as to whether its mountains shall be stripped of their forests and its inhabitants shall breathe pure air." Thus, the Court found it unnecessary to decide "whether the destruction of forests has led to the gullying" of roads owned by the State of Georgia.

Holmes then indicated that in order to vindicate the interest of states in maintaining their quasi-sovereign rights, the Court should be more sympathetic when it is a State that is seeking equitable relief than it would be to a private party:

> If the State has a case at all, it is somewhat more certainly entitled to specific relief than a private party might be. It is not lightly to be required to give up *quasi*-sovereign rights for pay; and, apart from the difficulty of valuing such rights in money, if that be its choice it may insist that an infraction of them shall be stopped. The States by entering the Union did not sink to the position of private owners subject to one system of private law. This

[81] Georgia v. Tennessee Copper Co., 206 U.S. 230 (1907).
[82] Seven Justices (Chief Justice Fuller and Justices Brewer, White, Peckham, McKenna, Day and Moody) joined Holmes' opinion. Justice Harlan filed a separate concurring opinion.

> court has not quite the same freedom to balance the harm that will be done by an injunction against that of which the plaintiff complains, that it would have in deciding between two subjects of a single political power.[83]

Thus, Justice Holmes felt that the Court should be less inclined to give weight to all of the traditional factors relevant to the exercise of equitable discretion,[84] even though these had been the focal point of the parties' oral arguments.

In language that has become the most frequently quoted portion of the decision, Holmes wrote:

> It is a fair and reasonable demand on the part of a sovereign that the air over its territory should not be polluted on a great scale by sulphurous acid gas, that the forests on its mountains, be they better or worse, and whatever domestic destruction they have suffered, should not be further destroyed or threatened by the act of persons beyond its control, that the crops and orchards on its hills should not be endangered from the same source. If any such demand is to be enforced this must be, notwithstanding the hesitation that we might feel if the suit were between private parties, and the doubt whether for the injuries which they might be suffering to their property they should not be left to an action at law.[85]

Reviewing the evidence, Holmes found it clear that (1) the defendants "generate large quantities of sulphur dioxid[e] which becomes sulphurous acid by its mixture with the air," (2) this gas often is carried by the wind great distances and over great tracts of Georgia land," and (3) "the pollution of the air and the magnitude of that pollution are not open to dispute."[86] He wrote that the Court was "satisfied by a preponderance of evidence that the sulphurous fumes cause and threaten damage on so considerable a scale to the forests and vegetable life, if not to health, within the plaintiff State as to make out a case within the requirements of *Missouri v. Illinois*."[87]

After warning Georgia that an insistence upon an injunction might do "more harm than good to her own citizens," Holmes stated that such judgments are a matter for Georgia to determine for herself. He dismissed the companies' laches argument, despite the sympathetic reception it had received in the Tennessee Supreme Court in the *Madison* case. Holmes found that Georgia had exercised "due diligence" by acting promptly to vindicate her rights whenever conditions changed and threatened her interests. After abandonment of the heap roasting method did not solve the problem, Georgia had renewed her action. Now the state believed that tall

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[83] 206 U.S., at 237-238.
[84] These included "a comparison between the damage threatened to the plaintiff and the calamity of a possible stop to the defendants' business, the question of health, the character of the forests as a first or second growth, the commercial possibility of reducing the fumes to sulphuric acid, the special adaption of the business to the place." 206 U.S., at 238.
[85] Id.
[86] Id.
[87] 206 U.S., at 238-239.

stacks "cause the poisonous gases to be carried to greater distances than ever before and that the evil has not been helped."[88]

Having upheld Georgia's right to an injunction, Justice Holmes left it up to the state to decide if that was truly its preferred remedy. He concluded his opinion by stating: "If the State of Georgia adheres to its determination, there is no alternative to issuing an injunction." But Holmes stayed the hand of equity for now in order to allow "a reasonable time to the defendants to complete the structures that they now are building, and the efforts that they are making, to stop the fumes." He directed that the state could submit a proposed decree when the Court reconvened in October.[89]

In an opinion concurring in the result, Justice John Marshall Harlan argued that the same legal principles should be applied in suits brought by states as in suits brought by private parties. He concluded that "Georgia is entitled to the relief sought, not because it is a state, but because it is a party which has established its right to such relief by proof."[90] He disputed Holmes's suggestion that the "court, sitting as a court of equity, owes some special duty to Georgia as a state" that it would not owe to a private party.[91]

While Holmes did not specify the source of the law he applied, his approach closely followed the one he employed in deciding *Missouri v. Illin*ois, where he cautioned that the Court must resolve disputes between states while not acting as a legislature. On the very day *Georgia v. Tennessee Copper* was decided, the Court issued a decision in a water rights dispute between the states of Kansas and Colorado. In his opinion for the Court, Justice Brewer addressed the question of what law the Court applied when it heard disputes between states:

> One cardinal rule, underlying all the relations of the states to each other, is that of equality of right. Each state stands on the same level with all the rest. It can impose its own legislation on no one of the others, and is bound to yield its own views to none. Yet, whenever, as in the case of *Missouri v. Illinois*, the action of one state reaches, through the agency of natural laws, into the territory of another state, the question of the extent and the limitations of the rights of the two states becomes a matter of justiciable dispute between them, and this court is called upon to settle that dispute in such a way as will recognize the equal rights of both and at the same time establish justice between them. In other words, through these successive disputes and decisions this court is practically building up what may not improperly be called interstate common law.[92]

C. *Bargaining in the Shadow of an Injunction*

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[88] 206 U.S., at 239.
[89] Id.
[90] Georgia v. Tennessee Copper Co., 206 U.S. 230, 240 (1907) (Harlan, J., concurring).
[91] Id.
[92] Kansas v. Colorado, 206 U.S. 46, 97-98 (1907).

Even before the Supreme Court issued its landmark decision, the copper companies understood that eventually they would have to develop a means of converting the sulphur in the copper ore into sulphuric acid or their plants would be shut down to abate the extensive environmental damage they were causing. In addition to the proceedings in the Supreme Court, private nuisance litigation continued to put pressure on the companies. The Supreme Court's decision emboldened private plaintiffs even more.[93]

Both companies had invested in new technology to reduce sulphur emissions even before the Supreme Court's decision had been handed down. In 1906 the Tennessee Copper Company had commenced construction of a huge chamber process plant to produce sulphuric acid from the sulphur contained in the copper ore. The Ducktown Company opted to start construction of a small contact acid plant in 1906. After trying this method and spending $60,000, the company ultimately decided that it was not compatible with the pyritic smelting process. Thus, the company belatedly decided that it, too, must invest in a large chamber acid plant. There is little doubt but that the two companies' decisions to build the plants were direct responses to the onslaught of nuisance litigation against them.[94] Ironically, the construction of chamber acid plants ultimately proved to be the economic savior of the Ducktown basin, as it shifted away from copper production in favor of the production of chemicals.

The chamber process plant built by Tennessee Copper went into operation in December 1907. It continued to operate until 1964 and was long believed to be the largest such plant in the world.[95] In the chamber process, sulfur dioxide gas is mixed with oxygen, inert nitrogen, water vapor and oxides of nitrogen to form a low strength sulfuric acid. Extremely hot sulfur dioxide gases from the copper converters or roasters then enter a "Glover tower, an all-masonry structure packed with a checker work of brick." Here the sulfur dioxide gases are exposed to water, niter gases, and oxides of nitrogen, which cool the gases and catalyze the formation of sulfuric acid, a process that continues as the gas mixture then flows through enormous lead chambers and further towers (called Gay-Lussac towers).

When the Supreme Court reconvened in October 1907, Georgia did not submit a proposed injunction to the Court. Instead, it submitted a motion to postpone entry of a final decree. Once again the state was forbearing in the face of indications that the copper companies were trying to reduce their emissions.[96] While the Tennessee Copper Company's chamber acid

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[93] Affidavits in the Supreme Court files indicate that, upon learning of the Court's decision, the owner of a timber company immediately cabled his partner with the news and his conclusion that the Supreme Court had increased the value of their timber holdings by 25 percent. He advised them to pursue actions for damages against the copper companies immediately. As of November 1, 1913, the Ducktown Company alone had 44 private lawsuits pending against it due to the air pollution it generated, including six suits filed in federal court. List of Smoke Suits Pending Against the Ducktown Sulphur Copper & Iron Co., Ltd. in the Circuit Court of Polk County, Tennessee, at Benton; in the Chancery Court Polk County, Tennessee, at Benton, and in the Circuit Court of the United States for the Southern Division of the Eastern District of Tennessee, at Chatanooga, November 1, 1913 (Box 5, File 89, files of Dr. John T. McGill in the Special Collections of the Jean and Alexander Heard Library, Vanderbilt University).

[94] See Barclay, supra, at 40.

[95] Sulfuric Acid Production: From Ore to Acid at 1.

[96] One commentator has observed that once the chamber acid plants had been built "[n]either the companies nor responsible officials of the State of Georgia expected anything serious to come out of the injunction decree.

plant was about to become operational, the Ducktown Company was investing $500,000 (the equivalent of nearly $9 million in 1998 dollars) to begin construction of a similar plant, which went into operation in June 1909.

The companies also were making efforts to settle some of the private litigation outstanding against them. For example, in April, 1908, the Shippen Brothers Lumber Co. reached agreement with Tennessee Copper Company "to release it from all claims for damages and to grant it an easement permitting it to allow smoke and gases from its furnaces to pass over and on our lands at all future times free from any claim for damages" in return for payments totaling $50,000 ($12,500 at closing, and $12,500 annually for each of the next three years). The agreement provided that if the company increased its emissions to levels substantially above existing emissions when operating at full capacity, the easement did not cover the additional emissions.

Even while Georgia did not immediately seek an injunction against the companies, the smelters were again before the U.S. Supreme Court in 1910 when private plaintiffs suing the companies appealed the dismissal of their actions to recover for damages to their timber holdings in Georgia. In *Ladew v. Tennessee Copper Company*,[97] the Court affirmed a decision dismissing a lawsuit brought by New York and West Virginia investors who owned timber lands in Georgia. The Court ruled that the Tennessee federal court did not have jurisdiction over the Tennessee Copper Company because the company was a New Jersey corporation that had refused to submit to the Tennessee court's jurisdiction. It concluded that a federal law that premised jurisdiction on the presence of real property within the local district could not be used to acquire jurisdiction because the action did not involve property in Tennessee.

Despite construction of the two chamber acid plants, complaints about the smelters' emissions persisted. Many residents of Georgia's Fannin and Gilmer counties sued the companies; most succeeded in recovering some damages.[98] On October 28, 1910, Georgia Governor Joseph M. Brown appointed William M. Bowron to investigate operations at the copper plants. Bowron visited the Ducktown area and filed a report in November 1910. Bowron discovered that the Tennessee Copper Company had increased production dramatically to levels more than twice what prevailed in 1905 when the state had renewed its complaint. He concluded that the plant was being operated without regard to levels of sulphur emissions being generated.

Bowron had a different view concerning the Ducktown Company. He found that it had not increased production, but instead actually had cut back to ensure that it did not exceed the capacity of its acid chamber to remove sulphur dioxide from its emissions. Bowron discovered that the Ducktown Company had started construction of further acid chambers, but it had not put them into operation. He explained that the company's "English directors did not wish to assume

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Economics would lead the companies to utilize their prime asset to its fullest. The State would refrain from unnecessary punitive action against the companies simply to appease a few of its more vindictive citizens." Barclay, supra at 83-84.

[97] 218 U.S. 357 (1910).

[98] Barclay, supra at 89.

the expense of finishing them and so locking up a further sum of money with an injunction from the Supreme Court of the United States hanging over their heads." Noting that the Ducktown Company's smelters were located three miles away from Georgia and had low chimneys that did not exceed the height of the surrounding basin, Bowron concluded that the company's emissions did not affect the state of Georgia.

In February 1911 the Tennessee Copper Company agreed to limit its emissions of sulphur during the growing season in return for the state of Georgia agreeing not to seek enforcement of an injunction until at least the October 1913 Term of the Supreme Court. Under the agreement signed between the state and the company, the company's emissions would be limited during the period from May 20 to September 1 for each of the next three years. Before the agreement was signed, Georgia Attorney General Hewlitt Hall consulted with Judge George F. Gober, who represented several Georgia residents who had been suing Tennessee Copper. Although Gober endorsed the deal, an editorial in a local paper denounced it as unsatisfactory because "they can run as much loose gas as they please until May 20th and kill all early vegetation," including "beans and peas" that "are generally matured by that time of year."[99] Despite these objections, the deal went into effect.

Shortly after this agreement was reached, Georgia farmers who had sued the copper companies received substantial monetary settlements. Local newspapers reported the settlement of 235 cases in March 1911 with the plaintiffs receiving substantially more in damages than they had expected.[100] This may have served to encourage other lawsuits. In late June 1911, a local newspaper announced that "all citizens of Fannin County who have not sued the Ducktown copper companies for damages, and who want to file suit, are urged to meet in Blue Ridge, Friday, July 21, 1911, at 10 o'clock."[101]

When the expiration of Georgia's contract with the Tennessee Copper Company approaching in 1913, the Georgia General Assembly proposed a new deal that would be applicable to both Tennessee Copper and the Ducktown Company. On August 13, 1913, it passed a resolution authorizing the Governor to enter into an agreement in which the Tennessee Copper Company would pay the state $16,500.00 per year (the equivalent of $270,000 in 1998 dollars) for three years in order to continue operations substantially as before. The legislature offered the Ducktown Company the same immunity, but for payment of only $8,500 per year (the equivalent of $140,000 in 1998 dollars) because the Ducktown Company was smaller than Tennessee Copper. These sums were to be distributed among citizens of north Georgia who had been injured by the emissions. Georgia indicated that if the companies did not agree to these terms it would apply for the injunction tentatively granted it in 1907. The Tennessee Copper Company agreed to these terms, but the Ducktown Company refused to accept them.

Tennessee Copper entered into a three-year contract with the state effective October 1, 1913. The company agreed to pay $16,500 per year into a Georgia bank to create a fund to

[99] Blue Ridge Summit quoted in R.E. Barclay, The Copper Basin – 1890 to 1963, at 85 (1977).
[100] Blue Ridge Summit, March 1, 1911, and Marietta Courier, March 3, 1911, quoted in Barclay at 89-90.
[101] Blue Ridge Post, June 22, 1911, quoted in Barclay, supra at 90.

compensate victims of its pollution who resided in northern Georgia. The agreement established a board of two arbitrators to distribute the compensation, one appointed by Georgia and the other by the company, with an umpire appointed by Georgia to resolve any disagreements between the two. Under the terms of the agreement, those who filed claims with the arbitration board were barred from seeking redress in court, even if their claims were denied by the board.

Tennessee Copper also agreed that, beginning in 1914, from April 10 to October 1 of each year, it would not "operate more green ore furnaces" than necessary to allow operation of its sulphuric acid plant "at its full normal capacity." The company agreed to limit its emissions during this period to protect crops and timber during the growing season. Under the agreement, the Governor of Georgia appointed an Inspector, Mr. J.J. Brown, who was posted at the plant to ensure that the Tennessee Copper complied with the agreement. As a result of the agreement, Georgia and the Tennessee Copper Company filed a joint motion asking the Supreme Court to grant a continuance of Georgia's case until the Court's October 1916 Term. On October 20, 1913, the Court granted this motion.

The Ducktown Company refused to agree to Georgia's terms. The company noted that it had spent $600,000 building an acid chamber plant that dramatically reduced sulphur emissions after its prior unsuccessful attempt to build a contact plant. As a result of this investment, it claimed that its operations were not causing any transboundary damage. The company maintained that any damage occurring in Georgia was caused by emissions from Tennessee Copper's smelters, which were larger and located closer to the Georgia border. Georgia acknowledged the Ducktown Company's smaller contribution to the problem, but insisted that this was reflected in the terms of its proposed settlement, which would require the company to contribute only slightly more than half of the amounts Tennessee Copper had agreed to pay.

Ducktown's general counsel proposed that a commission of independent scientists from one or more universities be engaged to investigate and report on whether the company's operations were causing substantial injury within Georgia. The company offered to pay the expenses of this investigation if Georgia officials would agree to accept and abide by its results. This proposal was rejected by Georgia's governor and attorney general who argued that the legislative resolution made it mandatory for them to pursue negotiated compensation. The Ducktown Company then hired D.J. McCandless, the former state chemist of Georgia who had been a member of both of the state's investigative commissions. Ducktown asked him to investigate its existing emissions and to report on their impact on Georgia residents.

The Ducktown Company's resolve may have been strengthened in November 1913 when it prevailed in a jury trial in federal court of two actions accusing it of having damaged vast swaths of timber lands. The plaintiffs in the cases included a father and son who owned 15,000 acres of land lying along the Georgia/Tennessee border. They claimed that the Ducktown Company's smelter emissions during the period from February 4, 1890 to May 20, 1910 had caused damages to their timber totaling $37,500. After filing lawsuits in state court, both cases

were removed to federal court on motion of the company.[102] The cases were then tried together. The jury "composed of substantial men, chiefly of the agricultural class" returned verdicts for the company in both cases.

D. *The Injunction*

Ducktown's trial victory did not convince the state of Georgia that the company was right when it refused to agree to the emissions limits the state sought. On February 24, 1914 Georgia asked the Supreme Court to issue an injunction against the Ducktown Company. The company responded by arguing that conditions had changed significantly since the Court issued its *Georgia v. Tennessee Copper* decision. It asked for an opportunity to prove to the Court that an injunction was no longer warranted. On April 13, 1914, the Court announced that it would postpone consideration of Georgia's injunction request until the start of its next Term in October. The Court granted both parties leave to take proof relating "solely to the changed conditions, if any, which may have arisen since the case was originally decided" in May 1907. The Court directed that testimony in opposition to the injunction was to be completed by July 1 and that Georgia then would be given until September 1 to provide its testimony. All testimony was to be filed with the Court no later than September 15, 1914.

The Ducktown Company took depositions of its witnesses from June 18 to June 23. On June 28, 1914, five days after these depositions were completed, Archduke Ferdinand was assassinated in Sarajevo, plunging Europe into World War I, an event that ultimately had a major impact on the case. Counsel for both parties agreed that Georgia would take depositions commencing on August 12 in the Court House in Blue Ridge, Georgia before E.P. Kingsberry, a Georgia Court Reporter. These depositions lasted until August 21. To expedite matters, the parties had agreed that the commission could certify that the testimony had been correctly transcribed rather than the usual procedure of allowing witnesses the opportunity to read over the transcript and sign it separately. All the testimony and exhibits were then sent "by express," from Gainesville, Georgia to the Clerk of the Supreme Court.

The Ducktown Company relied heavily on evidence presented by experts formerly employed by the state of Georgia. The company submitted an affidavit from William M. Bowrom, who had conducted an investigation at the request of the governor of Georgia in 1910. Bowron noted his previous conclusions that the Ducktown Company's emissions were not affecting Georgia. He stated that he subsequently had returned to Ducktown and that he "is positive that whatever damage results to the south of the Georgia line from smelting operations in Ducktown Basin is attributable entirely to operations of the Tennessee Copper Company and that any competent investigation will demonstrate this."

The Ducktown Company also presented the results of the investigation it had commissioned by former Georgia state chemist J. M. McCandless, who had been a member of

[102] In a preliminary skirmish in this litigation, the federal court had held that removal was proper for diversity reasons because Ducktown was a British company. Vestal v. Ducktown Sulphur, Copper & Iron Co. 210 F. 375 (E.D. Tenn. 1911).

one of the initial commissions appointed by the Georgia governor. He too testified that any damage caused by smelter emissions in Georgia was the result of emissions from the Tennessee Copper Company.

The State of Georgia submitted extensive testimony from witnesses claiming to have observed recent damage caused by emissions from the Ducktown Company. Among the witnesses testifying on Georgia's behalf was Dr. George G. Hedgcock, a plant pathologist for the U.S. government. Testifying on August 12, 1914, he presented as exhibits dozens of specimens of leaves damaged by smelter emissions. Under cross-examination, Dr. Hedgcock revealed that the U.S. Secretary of Agriculture had sent him to Ducktown at the request of the Governor of Georgia.

Believing its case to be handicapped by the Court's order restricting proof to "changed conditions" since 1907, Ducktown asked the Court to be allowed to take proof in rebuttal. Georgia objected to this request, which apparently was not granted, though both parties were allowed to submit some supplemental matter and exhibits.

On April 6 and 7, 1915, the Supreme Court heard two days of oral argument on Georgia's request for an injunction. Eight years had elapsed since the Court's initial decision declaring Georgia's right to an injunction. Five new Justices now were on the Court, four appointed by President William Howard Taft and one by President Wilson. Justice Edward White, who had been on the Court when it reached its initial decision, had been elevated to Chief Justice by President Taft. Two of the new justices were from states involved in the litigation: Justice McReynolds from Tennessee and Justice Lamar from Georgia.

On May 7, a month after the oral argument, German submarines sank the Lusitania, an event that drew the U.S. much closer to becoming involved in the war that had engulfed Europe. Three days later, on May 10th, the Court issued its decision granting Georgia's request for an injunction.[103] In an opinion by Justice McReynolds, a Wilson appointee from Tennessee who had joined the Court in 1914, the Court found that the Ducktown Company had not met its burden of proving that its emissions no longer were causing harm to Georgia.[104]

The Court noted that the Ducktown Company had spent more than $600,000 to construct the acid chamber plant that permits only 41.5 percent of the sulphur in the ores to be emitted in contrast to the 85.5 percent emissions rate that formerly prevailed. However, the Court noted that the Ducktown Company still had released 13,000 tons of sulphur in 1913, an average of more than 35 tons of sulphur per day, including 30 tons per day during July, at the height of the growing season. The Court concluded that "[t]his amount produced harmful results and must be diminished."

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[103] Georgia v. Tennessee Copper Co., 237 U.S. 474 (1915)

[104] "Counsel maintain that escaping sulphur fumes now produce no substantial damage in Georgia, and further, that if any such damage is being done, the Tennessee Company alone is responsible therefor. We think the proof fails to support either branch of the defense, and the state should have a decree adequate to diminish materially the present probability of damage to its citizens." 237 U.S. at 476-477.

The Court conceded that "[i]t is impossible from the record to ascertain with certainty the reduction in the sulphur content of emitted gases necessary to render the territory of Georgia immune from injury . . .".[105] But it decreed that the company "shall not permit the escape into the air of fumes carrying more than 45 per cent of the sulphur contained in the green ore" and that no more than 20 tons of sulphur per day could be emitted from April 10th to October 1st of each year, and no more than 40 tons per day during the rest of the year.[106]

Joining Justice McReynolds in the majority were Justice McKenna, Day, Van Devanter, Lamar and Pitney. Justice Hughes, joined by Justice Holmes and Chief Justice White, dissented. Their dissent consisted of a single sentence expressing the view that the evidence did not justify a decree that would limit the company's production.[107] Thus, two of the four Justices (Holmes and White) who had been on the Court when Georgia won its initial case did not agree that an injunction should issue. Ducktown's attempt to distinguish itself from Tennessee Copper had garnered three votes, but not the five necessary to avoid an injunction.

The Court's decision dismayed some residents of Tennessee. A group of "700 citizens and taxpayers of Polk County" petitioned Tennessee Governor Thomas C. Rye to intervene in the case in support of the Ducktown Company. The Governor directed Tennessee Attorney General Frank M. Thompson to investigate the facts and to determine whether Tennessee should seek to become a party to the litigation.

Officers of the Ducktown Company received official notice of the Court's decision on May 20. They directed operators of the smelters to restrict their operations in order to ensure compliance with the ruling. However, it was later reported that during the first week after receiving this order, "the most conscientious efforts upon the part of the entire metallurgical staff failed to reduce the escaping sulphur to within the twenty tons per diem." The company explained that "[t]his failure was due to a combination of several causes—principally the inexperience of the staff in operating the furnace under such reduced capacity as was necessitated and further by the inability of the mining department to mine and apportion ores of lower sulphur content."

On June 1, 1915, Chief Justice Edward D. White announced the Court's issuance of a decree directing the Ducktown Company to limit sulphur emissions to 20 tons per day from April 1-October 1 and 40 tons per day during the rest of year.[108] The Court appointed Dr. John T. McGill of Vanderbilt University to inspect the company and to report his observations and make recommendations for future actions within six months. While it was understood that the effect of the decree would be to limit the company's production, it was granted leave "to apply for relief as it may be advised" upon filing of the Inspector's report.

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[105] 237 U.S., at 477.
[106] Id. at 478.
[107] 237 U.S., at 478 (Hughes, J., dissenting).
[108] Georgia v. Tennessee Copper Co., 237 U.S. 678 (1915).

The Court's injunction applied only to emissions from the Ducktown Company. The Tennessee Copper Company had avoided an injunction because of the agreement it had reached with the state of Georgia. While this agreement did not set any specific limit on its sulphur emissions, the company had pledged to operate its smelters to ensure that the acid chamber plant would remove as much sulphur as possible. As the price of copper soared in response to the war in Europe, Tennessee Copper significantly increased both its production and its emissions. This resulted in renewed complaints from residents of Georgia.

In response to these complaints, Georgia Governor Nathaniel E. Harris dispatched Dr. R. E. Stallings, the state chemist, to investigate smelter emissions from Tennessee Copper. Using data from company, Dr. Stallings calculated that the company had emitted 338 tons of sulphur dioxide per day from April 1 to June 15, 1914. On July 17, 1915, the Gilmer County (Georgia) Farmers Union petitioned Georgia Governor Nat E. Harris to take action to stop farmers from "being ravished by the poisonous smelter fumes from the copper companies of Tennessee, located just across the state line . . .". The resolution noted that despite the agreement with the Tennessee Copper Company "the poisonous fumes and gases are still with us in great strength and intensity, and killing our crops and timber." It concluded that "the real fact of the whole matter is that the Tennessee Copper company has never paid the slightest attention to its solemn contract with the state to control its fumes during the growing seasons of crops and timber, and at the present time is running its furnaces to the fullest capacity in an effort to make all of the copper possible while that metal is at a world's record price in the markets of the world."

The farmers' union claimed that Tennessee Copper had bamboozled J.J. Brown, Georgia's inspector appointed under the agreement, who had failed to discover that the company was sending no more than one-third of its sulphur gases through the chamber acid plant. Declaring that the contract "is a farce and a huge joke practiced on a long suffering public by the Copper company," the farmers' union charged that the company was "cheating the citizens out of the relief the highest court in all of our land has said in no uncertain language that they were justly entitled to."[109]

The union also indicated its disenchantment with the compensation fund established by the agreement. It declared that "the sum of $16,500, as provided in said contract, is a mere pittance to cover the damage that has been inflicted" and that "the Legislature of Georgia would never have bargained the rights of the citizens away for such paltry sum, had they not relied on the provision to care for the fumes during the growing season."[110]

The farmers' union also maintained that the compensation fund had not been administered properly. Their resolution claimed that "despite the fact of the insignificant amount of $16,500 above provided to pay for damages, the present board has arbitrarily ignored the just claims of the citizens for their damages, and have, as a matter of fact, only paid out the sum of

[109] Resolution unanimously adopted by the Gilmer County Farmers Union, J.T. Deweese, President, July 17, 1915.
[110] The farmers' resolution noted that an injunction had been obtained by farmers living within 14 miles of a copper smelter owned by the Balaklala Consolidated Copper Co. of Shasta County, California even though the company had offered to pay $250,000 in damages as an alternative to the injunction.

$6,538 of said fund last year, although there were numerous and sundry just and equitable claims filed under oath by the very best citizens of this territory." It noted that $17,500 in claims had been filed at Blue Ridge "under oath in one batch by perfectly reputable men," but that "the arbitrators allowed the insignificant sum of $560." A Mr. Miller testified that he had submitted $1,000 in claims, but had received only $40 in compensation for them. The farmers' union reported that a result of the fund's failure to pay so many damages claims, a total of $25,733.52 had accumulated in the fund. Because the arbitrators "have repeatedly ignored all claims from Gilmer County," refusing even to investigate them, the citizens of Gilmer County "have become disgusted and say it is all a farce and that they will not file any more claims with it."[111]

When it issued the injunction against the Ducktown Company, the Supreme Court appointed a professor from Vanderbilt University, John T. McGill, as an inspector to ensure that its decree was carried out. McGill had received his Ph.D. in chemistry from Vanderbilt University in the early 1880s. He had remained at Vanderbilt as an instructor and later a professor, except for a year of post-doctoral work in Germany. McGill was a professor in the chemistry department, eventually taking over responsibility for directing the university's fledgling Department of Pharmacy.[112] He later became Dean of the Academic Department, a position he held until his retirement in 1919. A history of Vanderbilt University describes him as an "undistinguished scholar" who enjoyed a large office suite and private lab and who had to be bribed into retirement in 1919 after he had become "too deaf to teach."[113]

Dr. McGill found that after initial difficulties the Ducktown Company had generally succeeded in complying with the Court's injunction. From May 21 to September 19, 1915, the plant had average daily sulphur emissions of 16.345 tons. However, he noted that sulphur emissions on several occasions exceeded 20 tons per day because of the variability of the sulphur content in the ores smelted. The sulphur content of the ores varied widely from day to day since it often came from different mines in different locations. McGill noted that a smelter's daily output of sulphur could not be calculated until the end of each workday when all assays of the chemical content of products resulting from the smelting process had been made.

In an effort to determine the effects of higher levels of emissions on vegetation, McGill proposed to conduct an experiment by allowing the company briefly to double its emissions. However, he faced a problem because the experiment would violate the Court's order and the Court was out of session and unable to entertain a motion to modify its order. Eager to conduct the experiment before he had to return to teaching duties at Vanderbilt, McGill obtained the consent of all parties and informed the Court of the experiment on September 20, 1915.[114] For

[111] Under the terms of the agreement, submission of a claim to the board of arbitrators barred any recovery in a court of law, even if the arbitrators refused to pay the claim.
[112] Paul K. Conklin, Gone with the Ivy 72 (1985).
[113] Id. at 186, 249. McGill continued to live in a faculty house on the Vanderbilt campus until his death at the age of 95 in 1946.
[114] "It is now stipulated that said Inspector may authorize said defendant to emit such quantities of sulphurous gases from its works (not in excess of a maximum content of 40 tons in any one day) at such times and for such length of time prior to Oct. 1 as in his good judgment may be necessary to enable him to observe the working of said

10 consecutive days McGill observed the effects of doubling the plant's permissible emissions to 40 tons of sulphur per day. He reported that no harmful results were visible.

After obtaining a month's extension of the deadline for filing his report, McGill filed the Inspector's Report on January 1, 1916. The report emphasized that the amount of damage to vegetation caused by the sulphur emissions depended not only on the concentration of sulphur emissions, but also on atmospheric conditions. McGill noted that vegetation is more likely to be injured when emissions occur at times when the wind is low and the humidity high. McGill expressed a preference for operational controls that would restrict emissions in certain weather conditions. But he expressed the "opinion that the restriction of the Company's operations during a whole season to an output far below its capacity is unnecessary."[115] He recommended that the injunction be modified to permit the Ducktown Company to emit 40 tons of sulphur per day from May 1 to October 1 and 80 tons per day for the remaining times of year under ordinary atmospheric conditions, and that additional restrictions be placed on the operation of the plant when winds are low or humidity great. McGill recommended retaining the 45 percent requirement, and he urged the company to enlarge its sulphuric acid plant.

On April 3, 1916, the Court modified its injunction to enable the Ducktown Company to increase its emissions. It retained the requirement barring emissions of "fumes carrying more than 45% of the sulphur contained in green ores prior to smelting." But it increased allowable sulphur emissions by 25 percent from 20 to 25 tons/day from April 10 to October 1 and from 40 to 50 tons per day at other times.

Upset that the Court did not relax the injunction as much as McGill had recommended, the State of Tennessee sought to intervene in the case to request that the decree be relaxed. The Supreme Court granted this motion on June 12, 1916, but it did not grant the State's request to relax the injunction to the 40/80 level McGill had recommended.

On April 6, 1917, the United States entered World War I when Congress declared war on Germany. The state of Tennessee immediately notified Georgia that it would again move the Supreme Court for a modification of the injunction against the Ducktown Company. In its motion to modify the injunction, the state argued that "conditions have markedly changed" since last Term when the Court had refused to relax the injunction to the full extent recommended by McGill. The state noted that "copper and sulphuric acid are in great and unusual demand" and that the entry of the U.S. into World War I meant that the "country is entering on a stringent period, where there is urgent need of both."

With the outbreak of war the demand for copper and sulfuric acid increased dramatically, and the War Industries Board asked producers to expand their output. Copper prices soared from less than 15 cents per pound prior to the war to more than 27 cents per pound. Sulfuric acid prices also escalated, but the Ducktown Company was not able to benefit because it had agreed

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defendant's plant and the effect of the emission of said gases in such quantities before the present foliage and vegetation are effected by frost . . ."

[115] Inspector's Report at 59.

to a long-term contract to sell its sulfuric acid production at prewar prices. With the injunction restricting its production to five-eighths of its plant capacity, the company suffered while other producers greatly increased their revenue. Despite Tennessee's efforts, the injunction was not relaxed until 1918 when the federal government became involved in the litigation for the first time.

On February 4, 1918, the Secretary of the Navy wrote the Governor of Georgia requesting the state's consent to relax the injunction. On May 20, 1918, the Solicitor General of the United States filed an amicus brief in the case at the behest of the chairman of the War Industries Board of the Council of National Defense. The brief stated that "the need of the Government for copper and sulphuric acid in carrying on its war operations became so urgent" that the Attorney General had been asked to seek a modification of the injunction. However, because the Court then was in the process of adjourning for the year, it did not act on the government's request. Efforts to modify the injunction then focused on the Georgia General Assembly.

Lawyers for both the Ducktown Company and the Tennessee Copper Company lobbied the General Assembly to enact legislation easing restrictions on the companies. Tennessee Copper sought a relaxation of the emissions limits it had agreed to by contract and Ducktown sought to enter into a similar contract to ease the injunction imposed upon it. Tennessee Copper was represented by the law firm of Little, Powell, Smith and Goldstein, while William Butt was attorney for the Ducktown Company.[116]

On August 20, 1918 the Georgia General Assembly enacted a new resolution that ultimately accomplished what the companies had sought. The resolution relaxed the emissions limits imposed on both companies during the growing season and it abolished all emissions limits during the rest of the year. It directed the state to enter into a contract limiting the Ducktown Company's emissions to no more than 40 tons of sulphur per day from April 10 to October 1 of each year. It also eased the emissions limit imposed by contract on the Tennessee Copper Company to 88 tons per day during the growing season. The Ducktown Company was required to pay $8,500 per year into a fund to compensate victims of the pollution. The fund was to be distributed by an arbitration board in the same manner as the fund that the Tennessee Copper Company had been funding at $16,500 per year. Both companies immediately agreed to these terms.

On November 11, 1918, less than three months after the resolution easing emissions limits was enacted, the Armistice was signed; World War I officially came to a close on June 28, 1919. Despite the fact that the unusual wartime demand for copper and sulfuric acid had passed, the agreements between Georgia and the two companies that had relaxed the emissions limits continued in force, and were renewed again in 1922 and 1925.

Sulphuric acid production ultimately became a more important product than copper for the companies in the Ducktown basin. In 1925 the Ducktown Sulphur, Copper and Iron Co.

[116] See William Butt & Little, Powell, Smith & Goldstein, Information as to Senate Resolution No. 82, and the House Substitute Therefor (1918).

changed its name to the Ducktown Chemical and Iron Company. In 1929 the Ducktown Company began producing a higher grade of sulfuric acid through a new contact plant it had constructed. The company weathered the Depression by postponing further capital improvements, but on August 31, 1936 it was acquired by the Tennessee Copper Company.

On January 10, 1938, the Supreme Court granted a joint motion by the state of Georgia and the Tennessee Copper Company to dismiss Georgia's complaint.[117] Tennessee Copper sought to have the Ducktown Company's former parent corporation pay the court costs charged against the company. On October 17, 1938, the Supreme Court finally concluded its involvement in the litigation when it issued an order directing Tennessee Copper to pay all costs incurred since April 3, 1916. Georgia v. Tennessee Copper Co., 305 U.S. 565 (1938). After 34 years before the Supreme Court, the Ducktown saga finally was over.

The Tennessee Copper Co. was acquired by the Cities Service Company on June 14, 1963. Copper mining was discontinued in the Ducktown basin in 1987. Today a Swiss chemical company continues to produce sulphuric acid in the plant formerly operated by Tennessee Copper.

III. TRANSBOUNDARY WATER POLLUTION DECISIONS IN THE 1920s & 1930s

A. New York v. New Jersey

1. *New Jersey Designs a New Sewer System*

As illustrated by the controversy over Chicago's drainage canal, sewage disposal was an urgent problem for rapidly growing communities in the late nineteenth and early twentieth centuries. The common practice of dumping raw sewage into the nearest waterbody created enormous public health problems in many communities. Sewage discharges from New Jersey cities turned the Passiac River into such a threat to public health that for three successive years, beginning in 1896, the New Jersey legislature directed the governor to appoint commissions to devise a better method of sewage disposal. While three successive governor's commissions issued reports on the problem, it was not until 1902 that the legislature acted to create the Passaic Valley Sewerage District, whose boundaries covered virtually all the watershed of the Passaic River. In an effort to force the district to develop a new method of sewage disposal, the legislature in 1907 adopted legislation requiring that sewage discharges into the Passaic eventually be eliminated.

In April 1908 the Passaic Valley Sewerage Commissioners adopted a plan to construct a sewer system that would end discharges into the Passaic River. A main intercepting sewer would be built that would run alongside the river from Patterson to Newark before connecting with a tunnel which would take the sewage under Newark Bay to Upper New York Bay. The sewage would be discharged into the Bay just north of Robbins Reef Light at a point 40 feet under water. It was estimated that the entire sewer system would cost approximately $12.25 million dollars.

[117] Georgia v. Tennessee Copper Co., 302 U.S. 660 (1938).

The New Jersey Legislature then required that before construction could commence on the sewer and tunnel project, the Commissioners had to conduct a study and report to the governor whether the sewage discharges would pollute New York Bay so badly as to cause a nuisance. The Commissioners prepared a report finding that no nuisance would be created and the governor approved the project.

2. *New York Sues New Jersey*

Alarmed by the prospect of further pollution in New York Bay, the waters of which lie entirely within the jurisdiction of the state of New York, the New York Legislature created its own commission to investigate the project. The New York commission held a series of conferences with the New Jersey commissioners, but they were unable to reach agreement on the project. As a result, New York filed an action in the U.S. Supreme Court on October 17, 1908, seeking an injunction against construction of the project. New York's complaint named both the state of New Jersey and the Passaic Valley Sewerage Commissioners as defendants. It alleged that 120 million gallons of sewage would be discharged by the tunnel into New York Bay each day and that this would cause a public nuisance, offending and harming those who use the river for bathing or commerce, damaging vessels, and poisoning fish and oysters.

New Jersey filed its answer on January 24, 1909. It denied that the project would create a nuisance. New Jersey argued that it was as concerned as New York with keeping the Bay free of pollution because it also had several large cities bordering it. New Jersey noted that the project would conform to the recommendations of sanitary engineers and that the volume of sewage discharges would be less than one-seventh the amount that New York already was discharging into the Bay.

3. *Federal Intervention*

After New Jersey's answer was filed, the federal government petitioned the Supreme Court for leave to intervene. As grounds for intervention, the U.S. cited the federal government's responsibility for protecting navigation and interstate commerce and its inherent power to protect the health of government employees working at the Brooklyn Navy Yard. The U.S. generally concurred in the allegations in New York's complaint. It maintained that solids in the sewage discharges would obstruct navigation by filling up channels of the Bay, that the pollution would harm health and that other, more advance methods of sewage disposal should be used.

In response to the petition for intervention, New Jersey commenced settlement negotiations with the federal government. After lengthy negotiations, the state reached a settlement agreement with the United States. New Jersey agreed to redesign the project to provide for primary treatment to removes solids and floating material from the sewage and to disperse the discharges through 150 outlets spread over a 3-1/2-acre area. To ensure that these measures achieved their desired end, the settlement agreement included the following seven performance commitments:

> There will be absence in the New York Bay of visible suspended particles coming from this sewage; (2) there will be absence of deposits caused by it objectionable to the Secretary of War of the United States; (3) there will be absence of odors due to the putrefaction of organic matter contained in the sewage; (4) there will be absence on the surface of the Bay of any grease or color due to the sewage; (5) there will be no injury to the public health due to the discharge of the sewage, and no public or private nuisance will be created thereby; (6) no injurious effect shall result to the property of the United States situation upon the Bay; (7) there shall not be a reduction in the dissolved oxygen content of the water, due to this sewage, sufficient to interfere with major fish life.[118]

The agreement gave the federal government an unrestricted right to inspect the sewer system and made full compliance with the performance commitments an express condition of any permit issued for the project.

The federal government agreed to dismiss its petition for intervention upon filing of the settlement agreement with the clerk of the Supreme Court. In compliance with this provision, the petition for intervention was dismissed on May 16, 1910. However, New York was not satisfied that the settlement reached between New Jersey and the United States would be adequate to protect its interests. Thus, New York pressed ahead with its nuisance claim.

4. *Taking of Testimony and Oral Argument*

The parties began taking testimony on June 26, 1911, a process that lasted for more than two years. New York presented expert witnesses who argued that the measures New Jersey agreed to employ to provide primary treatment and to disperse its sewage would not be sufficient to prevent a nuisance. While New Jersey pointed to the performance commitments it had made to the federal government, New York argued that they were unenforceable. In addition to challenging whether the commitments actually could be made binding on either New Jersey or the United States, New York also argued that it would be impossible to determine if they had been fulfilled because New Jersey would blame any shortcomings on sewage discharged by New York. New Jersey presented its own expert witnesses who argued that the sewage system would not cause a nuisance and that any pollution caused by its discharges could be traced to its origin.

While the taking of testimony concluded on June 27, 1913, the case was not argued before the Supreme Court until November 1918, more than five years later. New York was represented at the argument by one of the most distinguished advocates to appear before the Court – former New York governor and former Supreme Court Justice Charles Evans Hughes. Hughes, the son of a Methodist preacher who had immigrated to the United States from Wales, was a graduate of Brown University and Columbia Law School. Hughes had practiced law for 20 years before attaining notoriety as part of a New York commission investigating gas and electric rates. He was elected governor of New York in 1906 and was near the end of his second term as governor when President Taft nominated him to the Supreme Court on April 25, 1910. After his nomination was confirmed a bare one week after it was made, Hughes served for six

[118] New York v. New Jersey, 256 U.S. 296, 306 (1921).

years on the Court until he was drafted to be the Republican presidential nominee in 1916. He narrowly lost the presidency to Woodrow Wilson in one of the closest elections in U.S. history. After his electoral defeat, Hughes returned to law practice. He made frequent appearances before his old colleagues on the Court, arguing more than two dozen cases there.[119]

On November 8, 11 & 12, 1918, the Supreme Court heard three days of oral argument on New York's complaint. In the course of the argument, the Justices discovered that the record before it had become rather dated. It had been more than five years since the taking of testimony had closed and in the interim considerable improvements had been made in sewage disposal technology. As a result, the Court on March 10, 1919 directed that additional testimony be taken on how the project and New York's own sewage disposal practices could be modified to reduce their polluting effects, and the extent to which New York Harbor already was polluted.

Both New York and New Jersey presented additional testimony of experts who disagreed over the present condition of the waters near the proposed discharge points and their probable future condition if the project went forward. New Jersey presented data showing that New York's population had been growing so rapidly that the population draining sewage into the harbor from New York's 450 sewage discharge points had grown by more than 100,000 people per year between 1906 and 1919. This was more than the entire population projected to be served by the Passaic Valley Sewerage District for the next two decades.

On January 25, 1921, the case was reargued in the Supreme Court. Arguing again for New York was former Justice Hughes. Hughes's busy Supreme Court docket at the time had included arguments in six other cases before the Court just during the period between October 14 and November 15, 1920.[120] At oral argument, Justice Mahlon Pitney of New Jersey, a friend of Hughes, interrupted him so frequently that Hughes thought he was purposefully trying to confuse him.[121] Shortly after the argument, incoming President Warren Harding nominated Hughes to become his Secretary of State.

5. *The Court's Decision*

On May 2, 1921, the Court ruled against New York.[122] In a unanimous decision authored by Justice John H. Clarke, who had been appointed to the Court by President Wilson, the Court held that New York had not presented sufficient evidence to warrant the issuance of an injunction. Citing *Missouri v. Illinois* and *Georgia v. Tennessee Copper*, the Court noted that New York clearly had a right to pursue its complaint in the Supreme Court because it alleged that the "health, comfort and prosperity" of its citizens and their property values are "being gravely menaced" by the acts authorized and directed by the New Jersey legislature. However, the Court noted the high burden of proof it had erected for such cases in *Missouri v. Illinois*,

[119] The Autobiographical Notes of Charles Evans Hughes 195 n. 34 (David J. Danelski & Joseph S. Tulchin, eds. 1973); Charles T. Fenn, Supreme Court Justices: Arguing Before the Court After Resigning from the Bench, 84 Geo. L. J. 2473, 2486 (1996).
[120] Id.
[121] Merlo J. Pusey, Charles Evans Hughes 388 (1951).
[122] New York v. New Jersey, 256 U.S. 296 (1921).

"[b]efore this Court can be moved to exercise its extraordinary power under the Constitution to control the conduct of one State at the suit of another, the threatened invasion must be of serious magnitude and it must be established by clear and convincing evidence."[123] The Court found New York had not satisfied this burden.[124]

The Court noted that New Jersey's project was designed with the assistance of "the best obtainable sanitary engineers, chemists and bacteriologists" and the state had proceeded "with great caution and with a settled purpose to fully respect the rights of the people of the State of New York."[125] Because the waters of New York Bay are a combination of saltwater and freshwater, New York's case turned not on harm to drinking water, but rather on predictions of offensive odors, unsightly deposits, damage to vessels and potential airborne diseases. Evidence of harm to vessels or airborne diseases was "much too meager and indefinite to be seriously considered as ground for an injunction," particularly since 900 million gallons/day of untreated sewage already was discharged into the harbor by New York City and other cities in 1912.[126] While expert witnesses for both sides made diametrically opposed predictions concerning odors and unsightly deposits, the Court noted that the growth of New York's own sewage discharges had been so rapid that it had annually added more sewage to the bay than New Jersey's entire project without producing the dire consequences New York's witnesses forecast. The Court also noted that the measures adopted by New Jersey in its settlement agreement with the United States were similar to, but even more extensive, than those included in New York City's own, most recent sewage disposal plans. The Court rejected New York's argument that the settlement was unenforceable, noting that it expressly provided the United States with the right to inspect and monitor both the treatment plant and the effluent discharged into the Bay. The Court also noted that the United States could halt further discharges by New Jersey if the performance commitments it made were not satisfied.[127]

While it can be argued that the Court failed to consider the cumulative impact of adding New Jersey's sewage on top of New York City's rapidly growing discharges, the Court's analysis seems similar to the kind of "unclean hands" rationale it employed in *Missouri v. Illinois*. If New York (like Missouri) did not require its own cities to treat their sewage as thoroughly as New Jersey, the state's case for Supreme Court intervention was diminished. Hughes ascribed his defeat to the settlement agreement between New Jersey and the United States, though he took some comfort from the Court's decision to dismiss New York's complaint without prejudice so that it could be renewed if the sewer did indeed prove to create a nuisance.[128]

Near the end of its opinion, the Court made an unusual observation that foreshadowed the future course of transboundary pollution disputes and the federal common law of nuisance when it observed:

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[123] 256 U.S., at 309.
[124] Id. at 309-310.
[125] Id. at 301.
[126] Id. at 309-310.
[127] Id. at 312-313.
[128] The Autobiographical Notes of Charles Evan Hughes, supra note __, at 194-95.

> We cannot withhold the suggestion, inspired by the consideration of this case, that the grave problem of sewage disposal presented by the large and growing populations living on the shores of New York Bay is one more likely to be wisely solved by cooperative study and by conference and mutual concession on the part of representatives of the States so vitally interested in it than by proceedings in any court however constituted.[129]

B. New Jersey v. New York City

1. *New York's Ocean Dumping of Garbage*

New York v. New Jersey was by no means the end of transboundary pollution battles between New York and New Jersey. A decade later the tables were turned when New Jersey sought relief in the Supreme Court to halt New York's dumping of garbage into New York Bay. As New York City grew, so too did its municipal waste stream, the composition of which also changed over time. Until 1860 New York City actually made a profit by selling its street sweepings for fertilizer since they contained substantial amounts of horse manure.[130] In 1910 Manhattan alone generated 1.2 million tons of coal ash waste from the coal burned for residential heating.[131]

During the nineteenth century, New York City dumped much of its refuse into upper New York Bay, a practice that eventually was prohibited by Congress because it interfered with maintaining proper channel depth for navigation.[132] In 1888 Congress passed additional legislation banning unpermitted discharges into the harbor and adjacent water of New York City and creating the office of Supervisor of the Harbor, to be occupied by an officer of the U.S. Navy, who would specify where dumping legally could occur.[133]

In 1896 the city built an incinerator at Barren Island, which "was an unending source of complaint because of the offensive odors which arose from it."[134] Eventually the city relied on incinerators and landfills to dispose of its municipal waste, except for a brief period in 1906 when some of the city's waste was dumped at sea. A commission established by the mayor noted in 1907 that all of New York's waste could be dumped at sea, but it concluded that this would result in "fouling of beaches: and creation of "a nuisance that the public should not be asked to tolerate."[135] However, in 1917 the Barren Island incinerator burned down and a new incinerator on Staten Island operated by a contractor was shut down by the state Health Commissioner after considerable protests caused by offensive orders. As a result, the city applied to the Supervisor of New York Harbor for a permit to resume ocean dumping in 1918.

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[129] 256 U.S. 296, 313 (1921).
[130] Percival, et al., supra note __, at 194.
[131] Id.
[132] Section 3 of the Act of Aug. 5, 1886, 24 Stat. 310.
[133] Act of June 25, 1888, 25 Stat. 209, as amended 33 U.S.C. Secs. 441-451.
[134] Court's Decision Forces City to Solve Its Refuse Problem, New York Times, May 24, 1931., at 3.
[135] New Jersey v. New York City, 283 U.S. 473, 480 (1931).

While federal officials reportedly objected to ocean dumping, New York City Health Commissioner Copeland stated that the dumping was necessary as a temporary measure until the city could build more incinerators.[136] The Supervisor of the Harbor then designated a dumping site and granted a permit.

In June 1921, a committee of New York City officials appointed to advise the mayor about sanitation options concluded that ocean dumping was not a viable, long-term alternative.

> It is know that the Federal authorities quietly resent, if they do not openly object to it, and there is always the possibility of objections from other communities which have in the past claimed that they have been injured by the practice. When these objections become sufficiently strong it may be that New York will find itself so unprepared as to be unable to quickly introduce a more satisfactory form of disposal.[137]

Beginning in 1922, New Jersey officials began to complain to the Mayor of New York City and the U.S. Secretary of War that garbage dumped into the ocean by the city was fouling New Jersey's shoreline. The Secretary of War directed the Supervisor of New York Harbor to bring these conditions to the attention of city officials and to urge them to complete their plans to build additional incinerators.[138] In 1924 and 1925, New York built additional incinerators, but they were not large enough to handle all of the city's garbage disposal needs. Both the ocean dumping and the complaints from New Jersey officials continued, even after the Supervisor moved the location of the dumping site. So much garbage reached New Jersey's beaches that at times 50 truckloads of garbage would have to be hauled away from a single beach. [139] In 1929 the city dumped 493,000 tons of garbage and ash into the ocean even though it had 20 incinerators located within its boroughs (three in Manhattan, nine in Queens, five in Brooklyn and three in Richmond).[140] The Supervisor of the Harbor had granted permits to New York to conduct the dumping at distances 10, 12-1/2 and 22 miles from the New Jersey shore.

2. *New Jersey Sues New York City*

In 1929 New Jersey asked the U.S. Supreme Court for leave to file a bill of complaint against New York City in order to seek an injunction to prohibit ocean dumping of the city's garbage. On May 29, 1929, the Court granted New Jersey leave to file its bill of complaint.[141] New Jersey alleged that New York's garbage was polluting a 50-mile stretch of its beaches, resulting in damage to 29 communities with 160,000 permanent residents, $139 million in property values and a $950,000 fishing industry. On October 14, 1929, the Court appointed Edward K. Campbell as special master and instructed him to make findings of fact, conclusions of law, and recommendations for resolving the controversy.[142]

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[136] New Jersey Upheld in Garbage Charge, New York Times, March 21, 1931, at 7.
[137] Quoted in New Jersey v. New York City, 283 U.S. 473, 480 (1931).
[138] Id.
[139] 283 U.S. at 478.
[140] Id.
[141] New Jersey v. City of New York, 279 U.S. 823 (1929).
[142] New Jersey v. City of New York, 280 U.S. 514 (1929).

In its defense, New York City's counsel first argued that the Court had no jurisdiction to restrict the city's dumping because it occurred entirely outside of the three-mile limit then in effect for U.S. territorial waters. Even though New York City was properly before the Court, the city maintained that not every case involving a state plaintiff and a citizen of another state was justiciable under the Court's Article III, Section 2 original jurisdiction. The city's counsel also argued that New Jersey had failed to meet its elevated burden of proving by clear and convincing evidence that New York's dumping was the cause of the conditions on New Jersey's beaches. The city argued that others, including the New Jersey cities of Asbury Park and Long Branch, had dumped large quantities of garbage in proximity to New Jersey's beaches.

While contesting New Jersey's complaint in the Supreme Court, New York commenced efforts to reform its waste disposal practices, including both refuse and sewage disposal. To this end the city created a Department of Sanitation. In December 1929, officials of the new department urged the mayor to build more incinerators.

As New York City sought to point the finger at other sources of refuse disposal into New York Harbor, it was widely conceded that the four decade-old federal Refuse Act was not adequate to prevent illegal dumping. Congress considered legislation to increase the penalties for unauthorized dumping in January 1931. Testifying in support of a bill in Congress to impose greater penalties for such dumping, R. Drane White, supervisor of New York Harbor, argued that it was virtually impossible to convict persons dumping debris into the harbor under existing law.[143]

On March 20, 1931, the special master filed his report with the Court. The special master concluded that New York City's ocean dumping had created a public nuisance by severely harming fishing and bathing in New Jersey waters. The master found that refuse reaching New Jersey beaches from other sources was negligible in comparison with the amount coming from the city's dumping. The city's compliance with a federal permit authorizing the dumping did not provide a defense against a public nuisance action, the master concluded. Finding that New York had unreasonably delayed construction of new incinerators, the master recommended that the Court issue an injunction prohibiting the dumping after giving the city a "reasonable time" to build the incinerators.

3. *The Court's Decision*

New York City filed exceptions to virtually every aspect of the master's reports; New Jersey filed none. On April 30, 1931, the U.S. Supreme Court heard oral argument on New York's exceptions to the special master's report. On May 18, 1931, the Court issued its opinion unanimously rejecting the exceptions and granting New Jersey's request for an injunction. In an opinion by Justice Butler, the Court found "no adequate reason for disturbing the findings" of the special master. The Court summarized these findings as follows:

[143] Fights Harbor Pollution, New York Times, Jan. 23, 1931, at 30.

> Weather permitting, the City dumps garbage daily. . . . When dumped, the mass forms piles about a foot above the water, spreads over the surface and breaks into large areas. Some materials remain on the surface and others are held in suspension. These masses float for indefinite periods and have been found to move at the rate of more than a mile per hour. Areas of garbage have been seen between the dumping places and the New Jersey beaches, and some have been followed from the place where dumped to the shore.[144]

The Court described the results of this dumping in the following terms:

> Vast amounts of garbage are cast on the beaches by the waters of the ocean and extend in piles and windrows along them. These deposits are unsightly and noxious, constitute a menace to public health and tend to reduce property values. . . . Floating garbage makes bathing impracticable, frequently tears and damages fish pound nets and injuriously affects the business of fishing.[145]

The heaviest of these deposits "occur four or five times in a season" and have to be hauled away by New Jersey authorities.

The Court dismissed New York City's jurisdictional arguments, noting that the "situs of the acts creating the nuisance, whether within or without the United States, is of no importance because the harm occurred in the United States and the defendant was properly before the Court and subject to its jurisdiction. The fact that the dumping took place pursuant to a permit did not absolve New York of liability for damage it caused because the permit was not issued pursuant to a statute that purported to provide such immunity.

The Court directed the special master to hear testimony from the parties and to report on what would be a reasonable amount of time to give the city to build incinerators before issuing an injunction to prohibit ocean dumping of garbage. The city Sanitation Commission had recommended the construction of 15 new incinerators at a cost of more than $17 million, but the mayor had taken no action on this proposal, guaranteeing that it would take considerable time to phase out ocean dumping.[146]

A week after the Court's decision in *New Jersey v. City of New York*, the Court decided a water rights case brought against New York City and state by New Jersey, joined by Pennsylvania.[147] The Court denied New Jersey's request for an injunction to prevent the diversion of 440 million gallons of water daily from the Delaware River to the New York City water supply. However, it required New York to build a sewage treatment plant at Port Jervis, New York and to stop discharges of untreated sewage into the Delaware and Neversink Rivers before the diversion could take place. The Court also required New York City to release water

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[144] New Jersey v. New York City, 283 U.S., at 479.
[145] New Jersey v. New York City, 283 U.S., at 478.
[146] Water and Garbage, New York Times, May 20, 1931, at 24.
[147] New Jersey v. New York, 283 U.S. 805 (1931).

from its reservoirs in times of low flow to satisfy a minimum flow requirement for the Delaware River. Thus, the Court was fully cognizant of the interrelated nature of water quantity and water quality issues and was not hesitant to use its equitable powers in resolving disputes between states concerning interstate pollution.[148]

4. *Injunctive Relief*

On November 23, 1931 the special master in *New Jersey v. City of New York* filed his report with the Supreme Court. Pursuant to his recommendations, the Court gave the city 18 months to stop ocean dumping. On December 7, 1931 the Court issued an injunction ordering the city to stop dumping of "any garbage or refuse, or other noxious, offensive or injurious matter, into the ocean, or waters of the United States" by June 1, 1933.[149] In the meantime, the Court ordered the city to operate its existing incinerators at full capacity "to reduce to the lowest practicable limit the amount of garbage dumped at sea," and to file semi-annual reports on its progress in constructing new incinerators.[150]

While the Court had provided New Jersey with the relief it requested, the Justices soon discovered how hard it can be to fight city hall. The reports filed by the city in April and October 1932 indicated that the city was not making much progress in its effort to build additional incinerators. Frustrated by the delay, New Jersey returned to the Supreme Court again on May 8, 1933 to ask that the city be held in contempt. The city responded that it had to delay construction of additional incinerators because it did not have sufficient funds to build them by the deadline set by the Court. Noting that banks were reluctant to loan money to it, the city requested a ten-month extension of the deadline to April 1, 1934. New Jersey argued that the "dignity of this court required more diligence and more respect for its decree," and that its financial problems were the product of the city's own "notorious extravagance."[151]

The Court responded on May 29, 1933 by directing the special master to review the time reasonably required for the city to stop ocean dumping and the city's progress toward that end through September 15, 1933. The Court also directed the master to determine how much additional expense any delay would cause New Jersey as state continued to have to remove garbage from its shores.[152] At a hearing before the special master on July 17, 1933, the city explained that its Department of Sanitation had no funds for incinerator construction and that it was unable to find buyers for bonds to finance the incinerators.[153] When asked if New Jersey would be willing to buy the city's bonds, New Jersey's counsel responded: "I think New York

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[148] This decree continued in force until 1954 when it was superceded by a new decree that adjusted the amount of water New York City could take from the Delaware River while requiring additional improvements to be made at the Port Jervis sewage treatment plant. The Court appointed a river master to monitor implementation of the decree. New Jersey v. New York, 347 US 995 (1954).

[149] New Jersey v. New York City, 284 U.S. 237 (1931).

[150] 284 U.S., at 586.

[151] Opposes Garbage Delay, New York Times, May 12, 1933, at 4.

[152] 289 U.S. 712 (1933).

[153] City Cannot Sell Incinerator Notes, New York Times, July 18, 1933, at 20.

should skin its own skunk."[154] The chief engineer of the city's Sanitation Department noted that funds for two additional incinerators might be provided by the Reconstruction Finance Corporation or the Industrial Recovery Board.[155]

The special master filed his report on October 19, 1933. The master found that the city had two incinerators under construction which would be ready for operation on April 21, and June 30, 1934, respectively, but he questioned whether these would be sufficient to enable the city to end ocean dumping. The master also found that two New Jersey cities had spent $2,160.79 disposing of garbage that had appeared on their beaches since June 1, 1934, the date of the Court's original deadline.

On November 6, 1933, the Court heard oral argument on New Jersey's motion to enforce the injunction and the special master's report. Arthur J. W. Hilley, Corporation Counsel of New York told the Court that incinerator construction had been delayed due to the city's financial problems. He pledged that completion of two new incinerators coupled with other measures the city was taking would enable it to end ocean dumping by July 1, 1934. Hilley asked the Court to extend its deadline to that date. He also explained that it was now shipping its garbage 35 miles out to sea, instead of the usual 25 miles. [156]

Arguing for New Jersey, Assistant State's Attorney Duane E. Minard asked the Court to hold the city in contempt. He argued that acting mayor Joseph V. McKee has "cheerfully accepted" the responsibility for blocking construction of the incinerators for nearly a year, while the city was able to raise funds to build new subways. Chief Justice Charles Evan Hughes, who had represented New York before the Court during its prior litigation against New Jersey, asked Minard what kind of order the Court should issue to enforce its injunction. "Nothing but violence will be understood, I would say, in light of what has happened in the last two years."[157] Minard suggested that the Court impose a fine, though he could not specify whether any particular city officials should be fined.

On December 4 the Court issued a decree, which was announced by Justice Butler. The Court granted New York's request to extend the deadline for ending ocean dumping to July 1, 1934. To enforce this new deadline, the Court ordered the city to pay New Jersey $5,000 per day for every day the deadline is missed. The Court also directed the city to pay New Jersey $2,160.79, the amount the master had found that two New Jersey cities already had spent disposing of beach debris since expiration of the Court's initial deadline.[158]

Although New York complied with the Court's order to stop ocean dumping of garbage, the city returned to the Supreme Court a year later to clarify that the Court's decree did not ban it from dumping sewage sludge within ten miles of shore. The city was dumping 4,000 tons of

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[154] Id.
[155] Id.
[156] Asks Court to Fine City for Dumping, Nov. 7, 1933, at 24.
[157] Id.
[158] 290 U.S. 237 (1933).

sludge per month. The sludge was composed of 90 percent water and 10 percent finely divided solids that did not float. New York claimed that New Jersey's cities had been dumping sludge at the same site in much greater volumes.

The Court granted New York City's motion. The Court concluded that New York's actions did not violate the decree of December 7, 1933.[159] It denied a request by New Jersey to appoint a special master, noting that New Jersey had not raised any issue concerning New York's compliance with the decree that required renewed gathering of evidence.

In his decision for the Court in *New Jersey v. New York,* Justice Butler did not directly address the question of the source of the law he applied in accepting the recommendations of the special master to grant equitable relief to New Jersey. Three months earlier, he had done so when writing for a unanimous Court in a water rights dispute between Connecticut and Massachusetts. Justice Butler explained that in disputes between states, "federal, state and international law are considered and applied by this Court as the exigencies of the particular case may require."[160] He explained that determination of the relative water rights of states is not based on the same considerations or the same legal principles as private disputes.[161] Instead, he emphasized the importance of the principle of equality of rights between states and he endorsed Justice Brewer's description of the Court's task as the development of "interstate common law."[162]

C. The Trail Smelter Arbitration

Even as the U.S. Supreme Court looked to principles of international law as a source of authority for resolving disputes between states, its decisions were influential in the development of international norms governing transboundary pollution. During the 1930s the Court's decisions in *Missouri v. Illinois* and *Georgia v. Tennessee Copper* served as the basis for the decision of an arbitral tribunal holding Canada liable for transboundary pollution from a copper smelter.[163] The *Trail Smelter* arbitration produced the only adjudicative decision that directly addresses transboundary pollution issues from the standpoint of international law.[164] It was the product of a controversy that began in 1925 over pollution from a large lead and zinc smelter located in Trail, British Columbia, fourteen miles from United States border.

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[159] 296 U.S. 259 (1935)

[160] Connecticut v. Massachusetts, 282 U.S. 660, 670 (1931).

[161] Id. The distinctive nature of the Court's approach to disputes between states is illustrated by its handling of a private nuisance dispute in a diversity case. On the very day that New Jersey returned to the Supreme Court to seek enforcement of the Court's injunction against New York City, the Court reversed an injunction a lower court had issued to require a municipality to stop polluting a stream running through private land. Applying Missouri nuisance law in the diversity case, the Court found that the balance of equities required reversal of an injunction giving the city six months to stop sewage pollution because the expense of installing sewage treatment equipment greatly exceeded the damage to plaintiff's land. City of Harrisonville v. W.S. Dickey Clay Manufacturing Co., 289 U.S. 334 (1933). The Court instead ordered the city to pay damages.

[162] Id. at 671.

[163] Trail Smelter (U.S. v. Can.), 3 R.I.A.A. 1905, 1938 (1949).

[164] See Merrill, supra note __, at 947.

Farmers in Stevens County, Washington complained that the smelter had damaged their crops and forest lands.[165] After being the target of several successful private damage actions by Canadians, the owners of the smelter raised its smokestack, dispersing the pollution further into Washington state. Although the company offered to buy smoke easements or to purchase damaged property in the United States, the Washington State constitution prohibited foreigners from owning property in the state. At the request of Washington's congressional delegation, the State Department pressed Canada for resolution of the dispute. Canada and the United States agreed to submit the dispute to the International Joint Commission (IJC), which was established by the Boundary Waters Treaty of 1909 between the two countries. After the IJC investigated[166] and recommended a settlement that the United States deemed inadequate,[167] the dispute was submitted to a special panel of arbitrators chosen by the two countries.

In arguments that looked like a replay of the *Georgia v. Tennessee* Copper litigation, representatives of the two countries argued over the extent of damage caused by the smelter's emissions. While the hearings were underway in 1937, the Trail smelter installed the kind of acid recovery process that the Ducktown smelters had adopted, reducing sulfur dioxide emissions by two-thirds from 1,000 to 350 tons/day and creating useful byproducts that were profitable for chemical and fertilizer plants.

In April 1938, the Arbitral Commission released its preliminary decision. The Commission first considered whether Canada could be held responsible for the acts of a private company operating within its jurisdiction if they caused harm beyond Canada's borders. Looking for precedents in international and domestic law, the Commission found the Supreme Court's decisions in *Missouri v. Illinois* and *Georgia v. Tennessee Copper* to be authoritative. Based on these decisions, it concluded that "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 establishing by clear and convincing evidence."[168] The Commission found Canada liable for only $78,000 in damages for the period 1932-37 based on two episodes where pollution from the smelter had caused visible markings on crops and timber in Washington state in the Springs of 1934 and 1936. Forty-eight farmers received $62,000 for damages to cleared land and $16,000 for damages to timberland. Applying the enhanced burden of proof derived from the United States precedents, the Commission rejected as unproven most of the scientific case for damages the United States had presented.

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[165] For a detailed description of the history of this controversy see John D. Wirth, Smelter Smoke in North America: The Politics of Transborder Pollution (2000).

[166] Wirth notes that the U.S. position was tempered by a keen awareness of the potential liability of the U.S. for pollution originating in the Detroit area that crossed into Ontario and for pollution from Arizona and Texas copper smelters that crossed into Mexico. He also notes that George G. Hedcock, a senior U.S. Forest Service pathologist who had testified for the plaintiffs in the *Georgia v. Tennessee Copper* case, was influential in providing evidence of forest damage for the plaintiffs and mapping the geographic distribution of injury. Id. at ___.

[167] The IJC recommended that Canada pay $350,000 in indemnification to the United States for damages through 1931, but it rejected the U.S. demand that the pollution cease. The United States had sought $700,000; the smelter company had offered to settle for $250,000. Id. at __.

[168] Id. at 181.

While the United States had asked the Commission to establish specific limits on emissions from the smelter, the Commission rejected this request in favor of requiring the smelter to employ intermittent operating restrictions coupled with measures to abate fumes at the stack. These required the smelter to monitor ambient levels of sulphur dioxide and atmospheric conditions and to cut back on production when conditions were unfavorable for dispersion of the emissions. These measures, coupled with the acid recovery process the plant already had adopted, substantially reduced emissions and the chance of sudden downdrafts of fumes occurring in the early morning hours during growing season.

The same month the *Trail Smelter* decision was released, the U.S. Supreme Court ruled in *Erie Railroad Company v. Tompkins* that federal courts must apply state law "[e]xcept in matters governed by the Federal Constitution or by acts of Congress."[169] Overruling *Swift v. Tyson,*[170] the Court declared that "[t]here is no federal general common law" and that the Constitution does not give Congress the "power to declare substantive rules of common law applicable in a state . . .".[171] Despite the seemingly sweeping nature of these declarations in Justice Brandeis's majority opinion, *Erie* did not undermine the ability of the Supreme Court to apply federal common law in resolving disputes between states. On the very day that it decided *Erie*, the Court used "federal common law," in another decision authored by Justice Brandeis, to resolve an interstate water rights dispute.[172] Federal courts also continue to employ federal common law in deciding cases of admiralty and maritime jurisdiction, international disputes involving foreign relations, and cases involving the rights and obligations of the United States.[173]

IV. THE SUPREME COURT RECONSIDERS ITS ROLE

As environmental issues swept to the forefront of national attention in the late 1960s and early 1970s, the Supreme Court was confronted with several new efforts to get it involved in resolving transboundary pollution disputes using its original jurisdiction. Daunted by the complexity of these disputes, the Court for the first time declined to exercise its original jurisdiction to decide these cases.[174]

A. Ohio v. Wyandotte Chemicals Corporation

The first dispute presented to the Court during this period was a product of the discovery of mercury contamination in Lake Erie. The contamination was brought to light in spring 1970 after the Canadian government closed commercial fishing on the Canadian side of a lake connected to Lake Erie due to the discovery of extraordinarily high levels of mercury in fish caught there. A week later the U.S. Food and Drug Administration discovered that chemical

[169] Erie Railroad Co. v. Tompkins, 304 U.S. 64, 77 (1938).
[170] 6 Pet. 1 (1842)
[171] Id.
[172] Hinderlinder v. La Plata River & Cherry Creek Ditch Co., 304 U.S. 92 (1938).
[173] See Bradford R. Clark, Federal Common Law: A Structural Reinterpretation, 144 U. Pa. L. Rev. 1245, 1264-65 (1996).
[174] See text accompanying note 177 infra.

plants in Ontario and Michigan were sources of mercury discharges into Lake Erie, which soon was closed to commercial fishing by Ohio and Michigan. Several other sources of mercury discharges were located in ensuing months.[175]

In response to the discovery of mercury contamination, the state of Ohio filed suit in its own state courts against sources of mercury discharges located in Ohio. To seek redress from out-of-state sources, the state also turned to the U.S. Supreme Court where it filed a motion for leave to file a bill of complaint against a Michigan corporation -- the Wyandotte Chemical Corporation – and a Canadian company – Dow Chemical Company of Canada, Ltd. – and its American owner (Dow Chemical Company). The complaint alleged that both Wyandotte and Dow Canada had discharged mercury into streams that reach Lake Erie, creating a public nuisance. Ohio asked the Supreme Court to exercise its original jurisdiction, and issue an injunction prohibiting further discharges by the defendants, require them to remediate existing contamination and award damages against them for harm caused to Lake Erie, its fish, wildlife and vegetation, and to inhabitants of Ohio.[176]

Concerned about the potential consequences of accepting such a complex case, the Court departed from its past practice in such interstate nuisance litigation. Rather than simply granting the motion for leave to file a bill of complaint, the Court scheduled oral argument on the motion and asked the Solicitor General to participate as *amicus curiae*. The papers of the late Justice Thurgood Marshall reveal that on the morning of oral argument, Chief Justice Burger distributed an unusual "Memorandum to the Conference" strongly cautioning his colleagues about the implications of agreeing to hear the *Wyandotte* case on the merits. "I have not resolved the issue in my mind except that it will take a large showing for me to get ourselves engaged in this kind of litigation. The 50 states and range of pollution problems give me pause." In light of the complexity of the issues involved in the case, the Chief Justice suggested that it was more than could be handled by the appointment of a single special master. "If we do grant leave to file, I believe we should consider appointing not one but three Special Masters, at least one of whom should be a scientist with background in the subject matter and without conflicting attachments or published positions on the subject matter."[177]

The oral argument was held on January 18, 1971. Attorneys for Ohio, the Solicitor General, and each of the three defendants argued before the Court. All parties agreed that the Court had original jurisdiction to hear the case under Article III, Section 2. The sole issue was whether the Court should decline to exercise that jurisdiction. Paul W. Brown, former Ohio attorney general who argued on behalf of the state, maintained that the Court was required to take jurisdiction in light of *Georgia v. Tennessee Copper* and *New Jersey v. City of New York*. Brown maintained that the Court's original jurisdiction was the only source of federal jurisdiction to hear the case because the state could not sue in diversity and there was no federal

[175] Winton D. Woods, Jr. & Kenneth R. Reed, The Supreme Court and Interstate Environmental Quality: Some Notes on the *Wyandotte* Case, 12 Ariz. L. Rev. 691, 692 (1970).
[176] Ohio v. Wyandotte Chemicals Corp. 401 U.S. 493 (1971).
[177] Memorandum from Chief Justice Warren E. Burger to the Conference, Jan. 18, 1971 .

question jurisdiction. While conceding that Wyandotte and Dow America could be sued in Ohio court, he questioned whether Ohio could effect personal service on them.[178]

Arguing as an *amicus*, the Office of the Solicitor General took no position on the question whether the Court should hear the case on the merits, though it argued that the Court had discretion to decline the case because its jurisdiction was not exclusive. The Solicitor General's Office did not agree with Dow Canada's claim that asserting jurisdiction over a Canadian corporation could cause an international incident or violate a treaty, though it conceded that it might be difficult to enforce a decree in Canadian courts.[179]

The Wyandotte Chemical Corporation argued that if the Court agreed to hear the case on the merits, it would be inundated with a flood of litigation over interstate pollution. The company maintained that it would be impossible to determine how much mercury had been discharged by each source and that there was no practicable way of measuring damages. The company announced that it had stopped mercury discharges on March 24, 1970, but that it would close its Wyandotte plant permanently on April 1, 1971, because it was too costly to comply with a consent decree that had been entered in a Michigan court.[180]

Representatives of Dow Canada argued that the case should be handled by the International Joint Commission (IJC), a body that had been established by the Boundary Waters Treaty of 1909. Proceedings before the IJC could be initiated by the State Department as was done in the *Trail Smelter* dispute. Four days before oral argument the IJC had issued a report finding that mercury was "omnipresent" and that only half of the mercury in Lake Erie was the product of discharges from industrial sources. The report recommended that Canada and the United States spend $2 billion in a joint effort to remedy mercury contamination of Lake Erie.[181]

The Court ultimately decided to decline jurisdiction by a vote of 8-1. The papers of the late Justice Thurgood Marshall suggest that the Court initially may have contemplated simply issuing an order declining to hear the case without explaining the reasons for its decision. However, after Justice William O. Douglas prepared a draft dissent from the Court's decision, Justice Harlan drafted a proposed concurrence setting forth reasons for denying leave to Ohio to file a bill of complaint. The other justices then agreed to join Harlan's draft concurrence, making it the opinion of the Court.[182]

In his opinion for the Court, Justice Harlan concluded that the Court clearly had jurisdiction to hear the case under its Article III, Section 2 power to hear controversies between a state and citizens of another state and between a state and foreign citizens.[183] Harlan noted that ordinarily the Court would hear the case in light of the "time-honored maxim of the Anglo-

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[178] Supreme Court Hears Argument on Ohio Suit to Ban Mercury from Lake Erie, 70 Env't Rep. 1010, 1011 (1971).
[179] Id.
[180] Id.
[181] Id. at 1011-12.
[182] Justice Blackmun was the first to join, deeming it "highly desirable that the factors which led the Court to its conclusion be stated." Memorandum from Justice Blackmun to Justice Harlan, March 8, 1971.
[183] Ohio v. Wyandotte Chemicals Corp., 401 U.S. 493, 495-496 (1971).

American common law tradition that a court possessed of jurisdiction generally must exercise it."[184] However, he declared that "changes in the American legal system and the development of American society have rendered untenable, as a practical matter, the view that this Court must stand willing to adjudicate all or most legal disputes that may arise between one State and a citizen or citizens of another, even though the dispute may be one over which this Court does have original jurisdiction."[185] Citing frequent disputes between states and nonresidents over taxes, motor vehicles, business torts and government contracts, and the development of "long-arm jurisdiction," Harlan concluded that "no necessity impels" the Court to serve as the "principal forum for settling such controversies."[186] He declared that the Court's "paramount responsibilities to the national system lie almost without exception in the domain of federal law" and that the Court had "no claim to special competence in dealing with the numerous conflicts between States and nonresident individuals that raise no serious issue of federal law."[187] Finally, Harlan noted that the Court is primarily "structured to perform as an appellate tribunal" and therefore is "ill-equipped for the task of fact-finding" in original cases that force it "awkwardly to play the role of factfinder without actually presiding over the introduction of evidence."[188] Moreover, "for every case in which we might be called upon to determine the facts and apply unfamiliar legal norms we would unavoidably be reducing the attention we could give to those matters of federal law and national import as to which we are the primary overseers."[189]

Harlan then described the holding of the Court as follows:

> [W]e may decline to entertain a complaint brought by a State against citizens of another State or country only where we can say with assurance that (1) declination of jurisdiction would not disserve any of the principal policies underlying the Article III jurisdictional grant and (2) the reasons of practical wisdom that persuade us that this Court is an inappropriate forum are consistent with the proposition that our discretion is legitimated by its use to keep this aspect of the Court's function attuned to its other responsibilities.[190]

Justice Harlan's majority opinion explained that the Court's original jurisdiction over suits between a state and citizens of another state was based on two principles: (1) "the belief that no State should be compelled to resort to the tribunals of other States for redress, since parochial factors might often lead to the appearance, if not the reality, of partiality to one's one," and (2) "that a State, needing an alternative forum, of necessity had to resort to this Court in order to obtain a tribunal competent to exercise jurisdiction over the acts of nonresidents of the aggrieved State."[191] Neither of these principles were at stake in this case, the Court explained, because Ohio's courts would have jurisdiction to adjudicate the case and federal and Canadian

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[184] Id. at 496-97.
[185] Id. at 497.
[186] Id.
[187] Id. at 497-98.
[188] Id. at 498.
[189] Id.
[190] Id. at 499.
[191] Id. at 500.

courts could review whether Ohio courts had acted even-handedly in applying the same state common law the Supreme Court otherwise would have to apply.[192]

Any doubt concerning whether the Court's decision signaled a fundamental shift in attitude toward resolving interstate pollution disputes was removed by Justice Harlan's discussion of the history of the Court's handling of such cases. "History reveals that the course of this Court's prior efforts to settle disputes regarding interstate air and water pollution has been anything but smooth."[193] He noted that in *Missouri v. Illinois* "Justice Holmes was at pains to underscore the great difficulty that the Court faced in attempting to pronounce a suitable general rule of law to govern such controversies. The solution finally grasped was to saddle the party seeking relief with an unusually high standard of proof" and to require the Court to apply "virtually unexceptionable legal principles."[194] Justice Harlan described Justice Clarke's closing plea in *New York v. New Jersey* for the states to work out these disputes through negotiation as illustrating "the sense of futility that has accompanied this Court's attempts to treat with the complex technical and political matters that inhere in all disputes of this kind."[195] These difficulties would be compounded by the fact that other jurisdictions, including Michigan and Canada, "are already actively involved in regulating the conduct complained of here" and the case involves novel scientific questions "for which there is presently no firm answer.[196] He concluded that no matter how competent the judges or special master, it would be unrealistic to believe that these issues could be resolved appropriately even if an unusually high standard of proof was employed.

The Court's decision refusing to hear Ohio's case on the merits came at a time of extraordinary public concern for the environment. Responding to this concern, Justice Harlan closed his opinion for the Court by explaining that it "cannot, of course, be taken as denigrating in the slightest the public importance of the underlying problem Ohio would have us tackle. Reversing the increasing contamination of our environment is manifestly a matter of fundamental import and utmost urgency."[197] Harlan maintained that the Court's decision was founded on its conclusion "that our competence is necessarily limited, not that our concern should be kept within narrow bounds."[198]

In his lone dissent, Justice Douglas reviewed the Court's previous transboundary pollution cases and argued that "this case presents basically a classic type of case congenial to our original jurisdiction."[199] He maintained that the litigation will "implicate much federal law"

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[192] Justice Harlan apparently adopted a suggestion made by Justice Hugo Black, who had had Harlan's opinion read to him over the telephone. Justice Black dictated a memorandum suggesting the addition of a "closing paragraph that leaves the case open for consideration by state courts." Memorandum from Justice Black to Justice Harlan, March 17, 1971.In his final draft opinion, Justice Harlan added a final sentence noting that Ohio's motion was "denied without prejudice to its right to commence other appropriate judicial proceedings." 401 U.S. 493, 505.
[193] Id. at 501.
[194] Id. at 501 & n.4.
[195] Id. at 502.
[196] Id. 502, 503.
[197] 401 U.S. 493, 505.
[198] Id.
[199] 401 U.S. 493, 505 (Douglas, J., dissenting).

because of the federal government's dominion over navigable waters.[200] While not denying the complexity of the issues presented by the case, Douglas argued that they were no more difficult than the complex issues that arise in water rights disputes the Court routinely decides when exercising its original jurisdiction.[201] A better case could be made for abstention, Justice Douglas argued, if the Court were required to hear these cases with a jury. But with the appointment of a special master, particularly one who could be authorized to retain a panel of scientific advisers, fact-finding would not be a burden on the Court.[202]

Less than a year after the Court declined to hear Ohio's complaint, On March 22, 1972, the state of Ohio filed suit in Ohio state court against Wyandotte Chemicals Corporation, the Dow Chemical Company, and Dow Canada seeking $35 million in damages ($25 million in compensatory damages and $10 million in punitive damages) for the defendants' discharges of mercury into the St. Clair River, the Detroit River and Lake Erie. The suit asked for an injunction prohibiting further discharges of mercury and asking for an order requiring the companies to remediate the mercury already existing in Lake Erie.[203]

The most confusing aspect of the Court's *Wyandotte* decision is Justice Harlan's discussion of what law would apply to the controversy. In a footnote, Justice Harlan stated that because 28 U.S.C. § 1251(b) provides that the Court's jurisdiction over actions by a state against citizens of another state or against aliens is "original but not exclusive," the Court's jurisdiction is concurrent with the federal district courts. However, he concluded that the case could not be transferred to a federal district court because the statute does not confer jurisdiction on them and there is no other statutory basis for such jurisdiction.[204] Harlan observed that diversity jurisdiction is not available in cases in which a state is a party and that federal question jurisdiction did not exist under 28 U.S.C. § 1331 because, citing *Erie,* "[s]o far as it appears from the present record, an action such as this, if otherwise cognizable in federal district court, would have to be adjudicated under state law." This observation may be founded on the notion that no federal interest warrants application of federal common law in circumstances where the Court decides that the structural purposes of original jurisdiction do not warrant its exercise. Alternatively, it may suggest that *Erie* should be extended to transboundary pollution cases.

Harlan's observation stands in sharp contrast with a decision issued six weeks earlier by the U.S. Court of Appeals for the Tenth Circuit. In *Texas v. Pankey*[205] the Tenth Circuit held that federal district courts had federal question jurisdiction over a transboundary nuisance action

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[200] Id.

[201] Justice Douglas cited the long-running dispute between Wisonsin and Illinois over the drainage of waters from Lake Michigan for the Chicago sanitary canal, a case that continued on the Court's docket for decades, as well as disputes between Arizona and California over the waters of the Colorado River and between Colorado, Wyoming and Nebraska over the waters of the North Platte. Id. at 511.

[202] Id.

[203] Ohio Mercury Suit, 2 Env't Rep. 1454 (1972).

[204] Id. at 498 n.3.

[205] 441 F.2d 236 (10th Cir. 1971).

brought by a state against non-residents because federal common law should apply in such cases. *Pankey* involved a lawsuit by the state of Texas to stop New Mexico ranchers from using a pesticide that allegedly contaminated water supplies flowing into Texas. While noting that the Supreme Court also would have original jurisdiction over the case, the court stated that "Texas' willingness to have the matter determined by a lower federal court . . . ought to be commended as an appropriate regard by it for not unnecessarily increasing the present burdens of the Supreme Court."[206] Although the Supreme Court's *Wyandotte* decision did not mention *Pankey*, a year later the Court cited it with approval while adopting its holding that federal district courts have federal question jurisdiction to hear interstate nuisance disputes founded on federal common law.[207]

B. The Leap Year Trilogy of 1972

When it decided *Wyandotte*, the Court had pending before it three additional motions for leave to file environmental complaints under its original jurisdiction. Six weeks after issuing its *Wyandotte* decision, the Court agreed to hear oral argument in each of the three cases on the question whether it should exercise its original jurisdiction. Each of the cases – *Washington v. General Motors Corporation, Vermont v. New York*, and *Milwaukee v. Illinois* -- was argued on Leap Year Day (February 29) 1972. On April 24, 1972, the Court announced its unanimous decisions in all three cases. The Court agreed to hear *Vermont v. New York*, but it declined to exercise its original jurisdiction in *General Motors* and *Milwaukee v. Illinois*.

1. *Washington v. General Motors Corporation*

Washington v. General Motors Corporation[208] involved an effort by a group of 18 states to sue the four principal automobile manufacturers for conspiring to restrain the development of pollution control equipment for automobiles. The bill of complaint the states sought to file asked the Court to order the automakers to accelerate their spending on research and development to produce devices to control auto pollution and to require retroactive installation on all vehicles made during the conspiracy. The Court decided not to hear the case under its original jurisdiction. The decision was unanimous.

In an opinion written by Justice Douglas, the Court concluded that although the case presented "important questions of vital national concern," it should be heard in federal district court.[209] The court noted that an appropriate alternative forum was available because multidistrict litigation involving the same claims already had been consolidated in federal district court in California. "The breadth of the constitutional grant of this court's original jurisdiction dictates that we be able to exercise discretion over the cases we hear under this jurisdictional head, lest our ability to administer our appellate docket be impaired."[210]

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[206] 441 F.2d, at 239.
[207] Illinois v. City of Milwaukee, 406 U.S. 91, 99-100 (1972).
[208] 406 U.S. 109 (1972).
[209] Id. at 112.
[210] Id., at __.

2. *Vermont v. New York*

Unlike *Wyandotte* and *General Motors*, another case before the Court, *Vermont v. New York*, involved a dispute between two states. Since the mid-1960s Vermont had been concerned about pollution from a large paper mill located in Ticonderoga, New York. Owned and operated by the International Paper Company, the mill for decades had been dumping large quantities of sludge into Lake Champlain, located on the border between New York and Vermont. On December 29, 1970,Vermont asked the Supreme Court for leave to file a bill of complaint against both the state of New York and the International Paper Company. Vermont alleged that pollution from the plant caused "noxious and nauseous odors" to cross the lake into Vermont creating a public nuisance and that the sludge bed encroached on Vermont waters, interfering with navigation and creating a trespass. Vermont asked the Court to issue an injunction prohibiting further discharges and requiring New York and International Paper to abate the nuisance, remove the sludge, and pay compensatory and punitive damages.

In its brief responding to Vermont's motion, New York accused Vermont of having abandoned interstate cooperation as a method for dealing with the Lake Champlain sludge pile. New York maintained that Vermont's claim against it was not justiciable because New York had neither committed any tortious conduct nor had it contributed to the paper mill's pollution in any manner. New York argued that the case involved no more than "a difference of opinion between Vermont and New York as to New York's quasi-sovereign actions in permitting International Paper Company to continue its operations within New York State."[211] Arguing that the alleged maladministration of one state's laws cannot give rise to a justiciable controversy between states, New York asked the Court to dismiss Vermont's suit.[212]

International Paper informed the Court that it would be closing the old paper mill by April 24, 1971 and that it was spending $76 million to build a new and much cleaner mill nearby. The company argued that it was not the only source of the sludge bed dumped in the southern end of Lake Champlain and that dredging to remove the bed would do greater harm than good to water quality in the lake.[213]

After deciding *Wyandotte*, the Court agreed to hear oral argument on whether to grant Vermont leave to file its complaint. The case was argued on February 29, 1972, the same day as *General Motors* and *Illinois v. Milwaukee*. On April 24, 1972, two months after hearing oral argument, the Court issued an order granting Vermont leave to fill its bill of complaint.[214]

While the Court's order did not provide any explanation of its reasons for agreeing to hear the case, the fact that it was styled as a dispute between states distinguishes it from the two cases the Court declined to hear. Vermont had named the state of New York as a defendant

[211] Brief in Opposition to Leave to File Complaint, quoted in Ficken, supra note __, at 449
[212] Vermont Suit, 1 Env't Rep. 1357 (1971).
[213] Supreme Court Brief, 1 Env't Rep. 1324 (1971).
[214] Vermont v. New York, 406 U.S. 186 (1972).

based on the premise that New York "[a]s the owner and exclusive regulator of [its] land and waters" had failed "to use and manage them in such a manner as not to injure the property of others."[215] The same federal statute that purports to make the Court's original jurisdiction non-exclusive in cases between a state and citizens of another state, 28 U.S.C. § 1251(b), provides that the Court's jurisdiction is "original and exclusive" in controversies between two or more states. The papers of the late Justice Thurgood Marshall show that in *Wyandotte* Justice Stewart recommended that Justice Harlan add a footnote distinguishing that case from "cases invoking the Court's original and *exclusive* jurisdiction,"[216] a reference to cases where a state sues another state. While Justice Harlan apparently did not adopt this suggestion, the Court made it clear in the companion case of *Illinois v. City of Milwaukee* that it would not have declined to exercise its original jurisdiction over a transboundary pollution dispute if it had been a dispute between states.[217]

New York and the International Paper Company maintained that there were other viable alternative venues for hearing Vermont's claims. They noted that landowners living on the Vermont side of Lake Champlain had filed a class action in Vermont federal district court against International Paper seeking an injunction and compensatory and punitive damages,[218] and they maintained that it was pointless to relitigate the same issues before the Supreme Court. International Paper argued that it could be sued by Vermont in Vermont or New York state court.[219]

After the Court agreed to hear Vermont's complaint against New York under the Court's original jurisdiction, New York and International Paper answered Vermont's complaint, The Supreme Court then appointed former Massachusetts Chief Justice R. Ammi Cutter to serve as special master in *Vermont v. New York*. In January 1973, six months after the special master was appointed, the United States filed a motion asking leave to intervene in the case, claiming numerous federal interests in the waters of Lake Champlain under federal statutes. The Court referred the motion to the special master,[220] who allowed the United States to intervene.

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[215] Complaint of Vermont in Vermont v. New York, quoted in Bruce W. Ficken, Wyandotte and its Progeny: The Quest for Environmental Protection Through the Original Jurisdiction of the Supreme Court, 78 Dickinson L. Rev. 429, 448 (1974).

[216] Memorandum from Justice Stewart to Justice Harlan, March 8, 1971.

[217] Illinois v. City of Milwaukee, 406 U.S. 91, 93-98 (1972).

[218] Zahn v. International Paper Company, 53 F.R.D. 430 (Vt. 1971). The plaintiffs in the *Zahn* litigation ultimately were assisted by witnesses who helped Vermont prepare its case in Vermont v. New York. See Peter Langrock, Addison County Justice 71 (1997). The *Zahn* class action was dismissed for failure of each plaintiff in the class to meet the $10,000 amount in controversy requirement then required for federal question jurisdiction under 28 U.S.C. 1331. After plaintiffs lost on this jurisdictional issue in both the Second Circuit, Zahn v. International Paper, 469 F.2d 1033 (2d Cir. 1972), and the U.S. Supreme Court, Zahn v. International Paper Co., 414 U.S. 291 (1973), the case was refilled in the name of two individual plaintiffs who later recovered a substantial settlement, though none of the injunctive relief they had sought to change the company's operations.

[219] Ficken, supra note __, at 452.

[220] Vermont v. New York, 409 U.S. 1103 (1973).

To establish its case, Vermont had scientists who worked for the state don scuba gear and dive into the lake to map the size and scope of the sludge bed.[221] After hearing 75 days of testimony in 1973, including nearly all of Vermont's direct case and approximately half of New York's, the special master encouraged the parties to negotiate a settlement. On April 24, 1974, the special master reported to the Court that a settlement had been reached. He asked the Court to approve a proposed consent decree that embodied the settlement. The parties had stipulated that the consent decree could be entered by the Court without further argument or hearing.[222] On June 3, 1974, the Court stunned the parties to the case by declining to approve the proposed consent decree.[223]

Under the terms of the proposed settlement, International Paper agreed to close its old paper mill and to reduce runoff from it, and to adopt new air and water pollution control measures at its new paper mill, which would be located four miles north of the old mill. A special lake master would be appointed to supervise implementation of the decree and to resolve all matters of controversy between the parties during the next nine years. The master could make recommendations for further relief if the measures adopted failed to prevent objectionable odors from reaching Vermont over a significant period of time.[224] These would take effect and become decisions of the Court automatically unless any party filed objections within 30 days or the Court disapproved. As a condition of the settlement Vermont agreed to release International Paper from all claims for damages from the plant's past air or water discharges and that no findings or adjudication of any issue of fact or law would be made.[225]

Explaining its reasons for refusing to approve the consent decree, the Court noted that it long had disfavored continuing Court supervision of equitable apportionment decrees in water rights cases and that when it had appointed special masters after litigation was concluded, it generally gave them only ministerial tasks to perform.[226] Noting that no findings of fact or law had been made, the Court concluded that the procedure contemplated by the proposed decree "would materially change the function of the Court in these interstate contests." The Court explained that:

> Insofar as we would be supervising the execution of a Consent Decree, we would be acting more in an arbitral rather than a judicial manner. Our original jurisdiction heretofore has been deemed to extend to adjudications of controversies between States according to principles of law, some drawn from the international field, some expressing a 'common law' formulated over the decades by this Court.[227]

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[221] See the description of this litigation in Peter Langrock, Addison County Justice: Tales from a Vermont Courthouse 70-71 (1997).
[222] Vermont v. New York, 417 U.S. 270, 271 (1974).
[223] Vermont v. New York, 417 U.S. 270 (1974).
[224] 417 U.S., at 271-273.
[225] Id. at 271, 273.
[226] Id. at 274-76.
[227] Id. at 277.

The Court noted that the proposals the master would submit to it "might be proposals having no relation to law." They could be "mere settlements by the parties acting under compulsions and motives that have no relation to performance of our Art. III functions." Nothing in the decree nor in the proposed master's mandate speaks to "the 'judicial power' of this Court, which embraces application of principles of law or equity to facts, distilled by hearings or by stipulations."[228] The Court suggested that there were other means for achieving the parties' goals, such as an interstate compact or a contractual settlement by the parties that would be binding so long as it did not conflict with an interstate compact. The parties ultimately reached such a settlement, with a $500,000 trust fund being created to protect the south lake. On October 29, 1974, the Court dismissed Vermont's bill of complaint.[229]

3. *Illinois v. City of Milwaukee (Milwaukee I)*

The most important case decided by the Court as part of the Leap Year Trilogy was *Illinois v. City of Milwaukee*.[230] Illinois sought leave to file a bill of complaint against four Wisconsin cities and the sewerage commissions of Milwaukee city and county. Illinois alleged that these cities were discharging 200 million gallons of raw or inadequately treated sewage into Lake Michigan on a daily basis. Mindful of the unclean hands doctrine employed by the Court to thwart Missouri's claim in *Missouri v. Illinois*, Illinois alleged that it and its subdivisions prohibit such discharges. The state sought an order from the Supreme Court requiring that the nuisance created by the sewage be abated.

In an opinion by Justice Douglas, a unanimous Court declined to grant Illinois leave to file its bill of complaint. The Court noted that because Illinois failed to join the state of Wisconsin as a defendant, the Court's original jurisdiction was non-exclusive because this was a suit between a state and residents of another state. Arguing that its original jurisdiction "should be invoked sparingly" so that its appellate responsibilities do not suffer, the Court enumerated factors that it would consider in determining whether to exercise jurisdiction.[231] These included "the seriousness and dignity of the claim, . . . the availability of another forum where there is jurisdiction over the named parties, where the issues tendered may be litigated, and where appropriate relief may be had."[232]

To determine whether or not an alternative forum was available, the Court examined 28 U.S.C. § 1331, which provided for jurisdiction in federal district courts of actions arising "under the Constitution, laws, or treaties of the United States." The Court held that pollution of interstate or navigable waters creates actions arising under the laws of the United States and that states could bring such actions. Citing *Texas v. Pankey*[233] with approval,[234] the Court concluded that § 1331 jurisdiction could support claims founded on federal common law as well as federal

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[228] Id.
[229] Vermont v. New York, 419 U.S. 961 (1974).
[230] 406 U.S. 91 (1972).
[231] Id. at 93.
[232] Id.
[233] 441 F.2d 236 (10th Cir. 1971).
[234] 406 U.S. 91, 103, 107 n.9.

statutes. In a footnote the Court disavowed the suggestion in *Wyandotte Chemicals* that state law should govern such disputes, describing the case as "based on the preoccupation of the litigation with public nuisance under Ohio law, not the federal common law which we now hold is ample basis for federal jurisdiction under 28 U.S.C. § 1331."[235]

While noting several pieces of federal legislation that address environmental concerns, the Court found that "[t]he remedy sought by Illinois is not within the precise scope of remedies prescribed by Congress."[236] Citing the reference in *Kansas v. Colorado* to the Court's development of "interstate common law," the Court in a footnote explained that "where there is an overriding federal interest in the need for a uniform rule of decision or where the controversy touches on basic interests of federalism, we have fashioned federal common law." [237] The Court thus appeared to be striking a blow for federal common law while at same time creating a jurisdictional basis for letting lower courts hear lawsuits over transboundary pollution.

The Court then addressed the question of how to fashion federal common law. While observing that "the applicable federal common law depends on facts of the particular case,"[238] the Court noted that nuisance law had been influential in shaping the Court's transboundary pollution decisions. It also noted that state law may be relevant in fashioning federal common law particularly to prevent a state that has chosen to adopt more stringent environmental standards from being at the mercy of other states with lower standards.[239] "There are no fixed rules that govern; these will be equity suits in which the informed judgment of the chancellor will largely govern."[240]

The Court's decision appeared to empower federal district judges to exercise broad discretion in fashioning remedies for interstate pollution. However, the ultimate effect of the decision proved to be far more limited. An observation Justice Douglas made near the end of the Court's opinion proved remarkably prescient. He noted that "it may happen that new federal laws and new federal regulations may in time pre-empt the field of federal common law of nuisance."[241] As Congress erected a federal regulatory infrastructure to protect the environment, the Court soon embraced preemption.

V. PREEMPTION OF THE FEDERAL COMMON LAW OF INTERSTATE NUISANCE

A. Illinois v. City of Milwaukee (*Milwaukee II*)

Shortly after the Court's decision in *Milwaukee I*, Illinois filed a new complaint against Milwaukee and other Wisconsin cities in federal district court for the Northern District of Illinois, charging that sewage discharges from them constituted an interstate nuisance in

[235] Id. at 102 n.3.
[236] Id. at 103.
[237] Id. at 105 n.6.
[238] Id. at 106
[239] Id. at 107.
[240] Id. at 107-108.
[241] Id.

violation of federal common law. Five months after the complaint was filed, Congress adopted the Federal Water Pollution Control Act Amendments of 1972 (hereinafter "Clean Water Act"), which created a comprehensive national permit program to control discharges of water pollutants from point sources. Pursuant to this legislation, the defendant Wisconsin cities obtained permits from the Wisconsin Department of Natural Resources which had been authorized to operate the federal permit program under delegated authority from the U.S. Environmental Protection Agency.[242]

After three years of pretrial discovery, Illinois's complaint went to trial in federal district court. The trial extended over a six-month period and involved scores of expert witnesses and extensive factual finding by the district judge. Milwaukee argued that the issuance of its Clean Water Act permits barred Illinois' federal common law nuisance action. The federal district court rejected these and other defenses and ruled that Illinois had proved that the discharges constituted a federal common law nuisance. The trial judge ordered the defendants to construct facilities to eliminate combined sewer overflows within twelve years and to meet new and more stringent effluent limits on sewage discharges that went beyond the terms of their existing permits.

Milwaukee appealed the decision to the U.S. Court of Appeals for the Seventh Circuit. The Seventh Circuit upheld the trial court's finding that the 1972 Amendments had not preempted the federal common law of interstate nuisance, but it reversed the imposition of more stringent effluent limits than those contained in the defendants' permits. However, the Seventh Circuit upheld the order directing the construction of facilities to prevent storm sewer overflows.[243] Milwaukee then sought review of the Seventh Circuit's decision by the U.S. Supreme Court.

The papers of the late Justice Thurgood Marshall reveal that the Supreme Court initially voted not to review the case. However, it reconsidered after Justice Byron White circulated a draft dissent from the decision to deny a writ of *certiorari*. In his draft dissent Justice White noted that he did "not necessarily disagree with the decision below," but "that there is substantial doubt as to whether Congress intended that inexpert federal courts, guided by principles of common law nuisance and maxims of equity jurisprudence, could impose environmental duties stricter than those adopted through democratic processes and developed by supposedly expert federal and state agencies." Justice White expressed the fear that "many interstate bodies of water . . . could become the subject of federal common law nuisance actions."[244]

After the Court agreed to review the case, the case was argued on December 2, 1980. At the oral argument, a representative of the Solicitor General's Office appeared as an *amicus* to argue in support of Illinois' position. The oral argument focused largely on the question whether the Clean Water Act had preempted the federal common law of nuisance. At the argument Chief Justice Burger expressed doubt that Congress had intended to preempt federal common law

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[242] City of Milwaukee v. Illinois, 451 U.S. 304, 310-311 (1981).
[243] City of Milwaukee v. Illinois, 599 F.2d 151 (7th Cir. 1979).
[244] Memorandum from Justice Byron R. White circulating Draft Dissent from Denial of Certiorari, March 3, 1980.

because it had not said so expressly in any part of the statute.[245] Following oral argument, when the Court met in conference to decide the case, the Marshall papers reveal that the Chief Justice deemed the case too close to call. Thus, he asked Justice Brennan, the Justice with the most seniority voting in the majority, to assign the opinion of the Court.[246] Justice Brennan asked Justice Rehnquist to write the majority opinion.

On April 28, 1981, the Court issued its decision holding that the Clean Water Act had preempted the federal common law of nuisance in interstate water pollution cases. Three Justices dissented. In his opinion for the Court, Justice Rehnquist first cited *Erie Railroad Company v. Tompkins* for the proposition that federal courts are not general common law courts with the power to develop their own rules of decision. While conceding that "the Court has found it necessary, in a 'few and restricted' instances . . . to develop federal common law,"[247] Justice Rehnquist argued that there is no reason to believe "that courts are better suited to develop national policy in areas governed by federal common law than they are in other areas . . ."[248] Citing separation of powers concerns, Justice Rehnquist argued that the judiciary should employ federal common law only when it is compelled to answer federal questions that cannot be answered by federal statutes alone.[249]

In order to determine whether federal common law has been displaced by a federal statute, the Court should undertake "an assessment of the scope of the legislation and whether the scheme established by Congress addresses the problem formerly governed by federal common law."[250] Justice Rehnquist stated that this is a different exercise from that undertaken in deciding whether federal law preempts state law. Concerns for preserving state sovereignty "are not implicated in the same fashion when the question is whether statutory or federal common law governs, and accordingly the same sort of evidence of a clear and manifest purpose is not required."[251] Because the Clean Water Act creates a comprehensive national permit scheme that addressed the very concerns raised by Illinois, courts should not be free to formulate different federal standards "through application of vague and indeterminate nuisance concepts and maxims of equity jurisprudence."[252]

Justice Rehnquist also cited the complexity of transboundary pollution cases as a reason why it would be "peculiarly inappropriate" for a court to invoke federal common law in the face of federal legislation supplanting it. He cited a statement by the district judge indicating that some of the expert testimony in the case was "over the heads of all of us . . .".[253] "Not only are the technical problems difficult – doubtless the reason Congress vested authority to administer the Act in administrative agencies possessing the necessary expertise – but the general area is

[245] Water Act Preempts Common Law, Supreme Court Told in Argument, 11 Env't Rep. 1183 (1980).
[246] Memorandum from Chief Justice Burger to the Conference, April 22, 1981.
[247] 451 U.S. at 304 (citing Wheldin v. Wheeler, 373 U.S. 647, 651 (1963).
[248] Id.
[249] Id. at 313-314.
[250] Id. at 304 n.6.
[251] Id. at 316-17.
[252] Id. at 317.
[253] Id. at 325.

particularly unsuited to the approach inevitable under a regime of federal common law" that would generic the kind of "sporadic" and "ad hoc" approaches to water pollution control that Congress has deemed inadequate.[254]

Justice Rehnquist noted that even in the absence of federal common law, Congress had provided Illinois with a forum in which to protect its interests by requiring that neighboring states be given notice and an opportunity to participate in permit proceedings likely to affect their waters. Illinois had not availed itself of its opportunity to participate in Wisconsin's permit proceedings and it should not be able to use the federal courts to rewrite defendants' discharge permits.

Writing in dissent, Justice Blackmun, joined by Justices Marshall and Stevens, challenged the relevance of *Erie*, noting that it did not disturb "a deeply rooted, more specialized federal common law" that the Court has fashioned "where the interstate nature of a controversy renders inappropriate the law of either State."[255] In such disputes, the laws of one state cannot impose upon the sovereign interests of another state and the onstitution extends the judicial power to the resolution of such controversies.

Under Justice Blackmun's vision, federal statutes that speak to the importance of resolving interstate pollution problems can serve as an incentive, rather than an obstacle, to developing federal common law. Justice Blackmun noted that the savings clause contained in the citizen suit provision of the Clean Water Act provided that "[n]othing in this section shall restrict any right which any person (or class of persons) may have under any statute or common law to seek enforcement of any effluent standard or to seek any other relief . . .:[256] Despite considerable legislative history supporting Justice Blackmun's view, Justice Rehnquist dismissed this history and the savings clause as providing only that nothing in the *citizen suit* provision of the Act preempted federal common law, while arguing that the balance of the statute did effect such preemption.[257] "[T]he fact that Congress *can* properly check the court's exercise of federal common law does not mean that it has done so," Justice Blackmun argued. "This Court is no more free to disregard expressions of legislative desire to preserve federal common law than it is to overlook congressional intent to curtail it."[258]

Responding to the argument that the complexity of interstate nuisance cases warranted preemption of federal common law, Justice Blackmun conceded that such cases often require difficult judgments, but he maintained that "they do not require courts to perform functions beyond their traditional capacities or experience."[259] In any event, "[t]he complexity of a properly presented federal question is hardly a suitable basis for denying federal courts the power to adjudicate," particularly when the expert agency administering the Clean Water Act frequently has sought to invoke federal common law jurisdiction. Justice Blackmun concluded his dissent

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[254] Id. at 325.
[255] Id. at 334, 335 (Blackmun, J., dissenting).
[256] Id. at 339.
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[258] 451 U.S. at 339 n.8 (Blackmun, J., dissenting) (emphasis in original).
[259] Id. at 349.

with an observation that the Court's decision was particularly unfortunate because it would undermine efforts to promote "a more uniform federal approach to the problem of alleviating interstate pollution."[260]

Two months after it decided *Milwaukee II*, the Supreme Court reiterated its holding that the Clean Water Act had entirely preempted the federal common law of nuisance for water pollution in *Middlesex County Sewerage Authority v. National Sea Clammers Association*.[261] The Court rejected a lawsuit by an association of shell fisherman seeking to recover damages for pollutant discharges that allegedly violated the Clean Water Act and other federal laws, by holding that Congress had not created an implied right of action for damages under the Clean Water Act. The Court majority saw no reason to find that the preemptive effect of the Act on federal common law is any less when coastal or ocean waters are involved.[262]

B. International Paper Company v. Ouellette

Left open by the Court's *Milwaukee II* decision was the question whether *state* common law remedies had been preempted by the Clean Water Act. This issue was addressed by the Court in *International Paper Co. v. Ouellette*[263] The *Ouellette* litigation was spawned by pollution from the new International Paper mill on the shores of Lake Champlain that had replaced the old mill that was the focus of *Vermont v. New York*.[264] In 1978 a group of property owners living on the Vermont side of the lake filed a class action against International Paper in Vermont state court. International Paper removed the case to federal court, which allowed the case to proceed as a class action on behalf of 150 owners of lakefront property.

While the litigation was pending in federal district court, *Milwaukee II* was decided. Citing *Milwaukee II*, International Paper moved to dismiss the case on the ground that the Clean Water Act preempts state nuisance actions. The district court then held the case in abeyance for three years while waiting to see how the Seventh Circuit would rule on the same issue, which had been raised by Illinois in renewed litigation against Milwaukee based on Illinois nuisance law.[265] Even though the Seventh Circuit ultimately ruled against Illinois,[266] the federal district judge in Vermont held that state nuisance actions had not been preempted by the Clean Water Act.[267] The court denied the motion to dismiss. International Paper took an interlocutory appeal to the Second Circuit where it lost again.[268] The company then sought review in the Supreme

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[260] Id. at 353.
[261] 453 U.S. 1 (1981).
[262] 453 U.S., at 22. Writing in partial dissent, Justice Stevens described the Court as having pursued *Milwaukee II*'s preemption rationale to its "inexorable conclusion" by holding that even noncompliance witht eh Clean Water Act "is a defense to a federal common-law nuisance claim." Id. at 31 (Stevens, J., partial dissent).
[263] 479 U.S. 481 (1987).
[264] See Peter Langrock, Addison County Justice, supra note __, at 79.
[265] Id. at 81.
[266] Illinois v. Milwaukee, 731 F.2d 403 (1984)
[267] Ouellette v. International Paper Co., 602 F.Supp. 264 (D. Vt. 1985).
[268] Ouellette v. International Paper, 776 F2d 55 (2d Cir. 1985).

Court, which agreed to hear the case to resolve the conflict between the Second and Seventh Circuits.

In the Supreme Court, the United States appeared as an *amicus* in support of the plaintiffs' position that the Clean Water Act did not preempt state common law actions. The papers of the late Justice Thurgood Marshall reveal that the Court itself had considerable uncertainty about how to decide the case. Although Justice Powell was assigned the opinion, he initially was uncertain about how to arrive at a position that would command the votes of at least four other Justices. In an unusual memorandum to the conference written before he even had started drafting the opinion, Justice Powell indicated that he would like to preserve a state common law remedy for interstate pollution while holding that the law of the source state must apply. Justice Powell wanted advance confirmation that this position could command a majority of the Court.[269]

Several Justice expressed support for this view. Justice Scalia proposed the theory that *Milwaukee I* had preempted the application of state common law by recognizing that federal common law governs in cases of interstate pollution. The Clean Water Act could be viewed as resuscitating the common law of the source state, Justice Scalia argued, while preserving preemption of the receiving state's common law.[270] Other Justices, who ultimately dissented, argued in favor of simply applying traditional choice of law principles.[271]

On January 31, 1987, the Court issued its decision holding that the Clean Water Act preempted state common law nuisance actions so long as the law applied was the law of the source state rather than the law of the receiving state.[272] Justice Powell's opinion for the Court conceded that the Clean Water Act does not directly address the question of preemption of state common law. After reviewing the goals and policies of the Clean Water Act, Powell concluded that allowing affected states to impose their own separate discharge standards on source states inevitably would create a serious interference with achievement of the full purposes of Congress.[273] Holding a discharger in another state liable for violating more stringent requirements of state nuisance law in the receiving state would compel the source to adopt different control standards than those approved by EPA and its home state. The inevitable result would be to allow states to "do indirectly what they could not do directly – regulate the conduct of out-of-state sources."[274] This would undermine the predictability and efficiency of the Clean Water Act's permit scheme and could subject a source to a variety of "vague" and "indeterminate" common law rules adopted by downstream states.

Thus, the Court found that state common law actions founded on the law of the receiving state were preempted. However, the Court also held that "nothing in the Act bars aggrieved

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[269] Memorandum to the Conference from Justice Powell, November 17, 1986.
[270] Memorandum to the Conference from Justice Scalia, November 18, 1986.
[271] Memorandum to Conference from Justice Blackmun, November 19, 1986; Memorandum to the Conference from Justice Stevens, November 24, 1986.
[272] International Paper Co. v. Ouellette, 479 U.S. 491 (1987).
[273] Id. at 493-94.
[274] Id. at 495.

individuals from bringing a nuisance claim pursuant to the law of the source state."[275] Since the Clean Water Act expressly preserves the right of states to impose more stringent standards on their own point sources, actions brought under the nuisance law of source states will not interfere with the balance of interests reflected in the Act. Since federal courts sitting in diversity are competent to apply the law of other states, the *Ouellette* plaintiffs were free to continue their action in Vermont's federal district court so long as it applied New York nuisance law to their claims.[276]

Four Justices dissented. Justice Brennan, joined by Justices Marshall and Blackmun, argued that there was no need to decide whether a source state's nuisance law had been preempted because there was no difference between the law of Vermont and New York. In any event, federal district courts hearing such actions should apply traditional choice-of-law principles to determine what law to apply.[277] Justice Brennan criticized the majority for assuming erroneously that "Congress valued administrative efficiency more highly than effective elimination of water pollution."[278] In a separate dissent, Justice Stevens, joined by Justice Blackmun, questioned "what has happened to the once respected doctrine of judicial restraint."[279]

On remand, the plaintiffs continued to pursue their case against International Paper, but this time applying New York nuisance law, which was no less favorable to them than the law of Vermont. After completing a long and arduous discovery process, the *Ouellette* case went to trial. The plaintiffs presented evidence that International Paper had committed more than 1,000 violations of its air and water discharge permits. Shortly after the trial, International Paper agreed to settle the case. The settlement agreement provided monetary compensation to each member of the plaintiff class in amounts that represented approximately 25% of the assessed value of their property. As part of the settlement, International Paper also agree to create a $500,000 trust fund to be used for research to help protect the lake.[280] Thus, the Court's decision that common law claims for transboundary pollution must be adjudicated under the law of the source state ultimately did not prevent the plaintiffs from obtaining relief.

VI. THE FEDERAL COMMON LAW OF INTERSTATE NUISANCE: AN APPRAISAL

As a result of *Milwaukee II* and *Ouellette*, the federal common law of nuisance has been preempted in interstate pollution disputes, while state common law nuisance actions remain viable so long as the law of the source state is applied.[281] Despite its apparent demise, study of

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[275] Id. at 497 (emphasis in original).
[276] Id. at 500.
[277] 479 U.S. 491, 501 (Brennan, J., dissenting).
[278] Id. at 504.
[279] Id. at 509 (Stevens, J., dissenting).
[280] See Langrock, supra note __, at 86.
[281] *Milwaukee II* and *Ouellette* dealt only interstate water pollution disputes in which the federal Clean Water Act was held to preempt the federal common law of nuisance. Although the Supreme Court has not directly addressed the question whether the federal Clean Air Act preempts federal common law in disputes over transboundary air pollution, it is widely assumed to do so, particularly in light of the Clean Air Act Amendments of 1990, which created a comprehensive federal permit scheme similar to that established by the Clean Water Act. See Andrew

the history of the federal common law of nuisance can yield some useful insights relevant to contemporary debates over federalism, separation of powers and regulatory policy. Three aspects of this history deserve special attention. First, what does this history reveal concerning the legitimacy of federal common law in light of concerns for federalism and separation of powers? Second, what legal norms, if any, concerning the law of transboundary pollution can be discerned from the Supreme Court's jurisprudence and what are the sources of such norms? Third, how effective is the common law of nuisance as a vehicle for achieving environmental protection goals and what is the impact of preempting federal, but not state common law?

A. Federalism and the Legitimacy of Federal Common Law

Concerns about the legitimacy of federal common law have centered on two issues – federalism and separation of powers.[282] As the Court noted in *City of Milwaukee v. Illinois*, "[f]ederal courts, unlike state courts, are not general common-law courts and do not possess a general power to develop and apply their own rules of decision."[283] Yet the Supreme Court has consistently recognized, both before and after *Erie*, that under some circumstances it is necessary and legitimate for courts to develop and to apply federal common law. These circumstances include "cases raising issues of uniquely federal concern, such as the definition of rights or duties of the United States or the resolution of interstate controversies."[284] The "uniquely federal concern" that warranted the development of the federal common law of interstate nuisance was the Court's constitutional authority under Article III, Section 2 to hear controversies between states.

The Court's decisions to allow states to bring interstate nuisance disputes to protect their sovereign interests represented a substantial shift away from private law notions that prevailed throughout the nineteenth century.[285] Until the Court's decision in *Missouri v. Illinois*,[286] states generally were not allowed to sue in federal court to vindicate their sovereign interests unless they could demonstrate infringement on rights protected at common law. Thus, while states could sue in federal court to resolve boundary disputes because they resembled traditional property claims, they could not ask the federal courts to enforce state law against a state's own citizens,[287] nor could they sue to protect their citizens from nuisances unless they caused the state itself some particularized injury.[288] By recognizing that transboundary pollution could infringe on state sovereignty in a manner warranting a federal remedy, Justice Holmes's opinions in *Missouri v. Illinois* and *Georgia v. Tennessee Copper* represented a significant shift toward

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Jackson Heimert, Keeping Pigs Out of Parlors: Using Nuisance Law to Affect the Location of Pollution, 27 Envt'l L. 403, 474 (1997).

[282] See Thomas W. Merrill, The Common Law Powers of Federal Courts, 52 U. Chi. L. Rev. 1 (1985).

[283] City of Milwaukee v. Illinois, 451 U.S. 304, 312 (1981).

[284] Northwest Airlines v. Transport Workers Union, 451 U.S. 77, 95 (1981).

[285] See Ann Woolhandler & Michael G. Collins, State Standing, 81 Va. L. Rev. 387, 392-94 (1995); Cf. Akhil Amar, Of Sovereignty & Federalism, 96 Yale L. J. 1425 (1987) (arguing that true sovereignty lies in the people).

[286] 180 U.S. 208 (1901).

[287] Cohens v. Virginia, 6 Wheat. 264 (1821).

[288] Pennsylvania v. Wheeling & Belmont Bridge Co., GET CITE

opening the federal courts to public law claims in a manner that presaged subsequent developments in standing doctrine applicable to private litigants.

The Court's use of federal common law to resolve interstate nuisance disputes did not raise federalism concerns because the Court employed federal law to vindicate the interests of states in preventing transboundary pollution from infringing on their sovereignty. As Justice Holmes noted in *Georgia v. Tennessee* Copper, an interstate nuisance dispute involves "a suit by a State for an injury to it in its capacity of *quasi*-sovereign."[289] Thus, when it adjudicated disputes over interstate pollution the Court was employing federal common law to decide matters beyond the legislative competence of the states in which it was necessary for the Court to develop federal rules to further the constitutional scheme.[290]

The history of the federal common law of interstate nuisance demonstrates that the Court was sensitive to federalism concerns in seeking to employ principles of federal common law that respect the equal footing of all states as members of the union. Thus, the Court repeatedly cautioned states that any rules it applied in their favor could later be used against them in other circumstances. By seeking to develop principles of federal common law that will treat states as equals, the Court acted to promote values of federalism embodied in the Constitution.

While representatives of the federal government were involved in many of the transboundary pollution disputes heard by the Court, their involvement generally was limited to the protection of well recognized federal interests, such as the protection of interstate navigation. In *New York v. New Jersey* the federal government intervened to ensure that New Jersey's sewage disposal plans would not create obstructions to navigation in New York Harbor.[291] In *New Jersey v. New York* the Supervisor of New York Harbor had issued a permit to New York City authorizing the dumping of garbage that spawned the dispute, but the permit was based solely on a federal judgment that dumping at a certain location would not interfere with navigation. It did not deter the Court from finding that the dumping violated New Jersey's rights. In *Missouri v. Illinois*, where the Court rejected Missouri's request to enjoin opening of the drainage canal that ultimately would send Chicago's sewage to the Mississippi River, the U.S. Secretary of War had approved the opening of the canal. However, once again this was based on a judgment concerning the canal's effect on navigation and it did not stand in the way of the Court in *Wisconsin v. Illinois* later requiring the Chicago Sanitary District sharply to reduce its diversions of water into the canal to stop the harm they were causing to upstream interests. In *Georgia v. Tennessee Copper* federal scientists conducted investigations of the effects of the smelter emissions on forests and crops and prepared reports that were used in testimony in support of Georgia's interstate nuisance action. This involvement, which assisted the only state then a party to the litigation, was consistent with the interests of the federal

[289] Georgia v. Tennessee Copper Co., 206 U.S. 230, 237 (1907).
[290] See Bradford R. Clark, Federal Common Law: A Structural Reinterpretation, 144 U. Pa. L. Rev. 1245, 1271, 1322 (1996) (proposing these as criteria for assessing the legitimacy of federal common law and concluding that interstate pollution disputes meet these criteria).
[291] The United States later reached a settlement with New Jersey that required the state to employ treatment technologies that later proved to be influential in the Court rejecting New York's interstate nuisance claim.

government because the United States at the time was involved in similar litigation against smelters in Western states whose emissions were damaging federal lands.

In each of the cases decided by the Court through application of federal common law, the nature of the federal interest the Court sought to vindicate was its constitutional role as a neutral, yet authoritative, forum for resolving disputes between states. However, by the time of *Milwaukee II*, the nature of the federal interest involved in the case had changed dramatically due to the enactment of the Federal Water Pollution Control Act. By enacting this legislation, Congress had established a direct federal interest in regulating all pollutant discharges to surface waters. A National Pollutant Discharge Elimination System (NPDES) permit had been issued for the discharges challenged by Illinois, and the Court held that the federal legislation establishing the permit scheme preempted the federal common law of nuisance.

The Court declared that preemption of federal common law promoted principles of separation of powers because "'we start with the assumption' that it is for Congress, not federal courts, to articulate the appropriate standards to be applied as a matter of federal law."[292] By making it easy to infer preemption of its own ability to fashion federal common law, the Court's decision promoted judicial restraint, even if it was not what the dissenters considered to be a faithful interpretation of the congressional intent behind the Clean Water Act's savings clause. The Court justified basing preemption of federal common law on a lesser showing of intent than would be required to preempt state law by noting that states are represented in Congress but not in federal courts. Thus, it concluded that concerns about judicial displacement of state law that counsel against finding preemption in absence of clear congressional intent "actually suggest a willingness to find congressional displacement of *federal* common law."[293] As a result of *Milwaukee II*, the nature of the federal interest vindicated by courts hearing interstate nuisance litigation evolved from a concern for maintaining harmony between the states to a concern for avoiding conflicts with federal environmental programs established by Congress.

Due to the displacement of federal common law by federal environmental legislation, states that are the victims of interstate pollution now must depend upon decisions by the EPA or source state permitting officials to protect themselves from transboundary pollution. In *Arkansas v. Oklahoma*[294] the Supreme Court ruled that the EPA has the authority to require permitting authorities in upstream states to ensure that dischargers located there will not cause "actual detectable violations" of the water quality standards of downstream states. This decision, which was founded largely on *Chevron* deference to the EPA's exercise of discretion under the Clean Water Act, provides a potential avenue for downstream states with more stringent environmental standards to mitigate the impact of *Ouellette*'s exclusive focus on the law of source states.[295] The Court in *Arkansas v. Oklahoma* interpreted *Ouellette* not as a bar on consideration of the

[292] City of Milwaukee v. Illinois, 451 U.S. 304, 317 (1981).
[293] Id. at n.5.
[294] 503 U.S. 91 (1992).
[295] See Katheryn Frierson, *Arkansas v. Oklahoma*: Restoring the Notion of Partnership Under the Clean Water Act, 1997 U. Chi. Legal F. 459.

impacts of transboundary pollution on downstream states, but rather as a limit on the remedies available to downstream states.

B. Separation of Powers and Legal Norms for Controlling Transboundary Pollution

As noted above, the Supreme Court's decisions applying the federal common law of nuisance have served as important precedents for the development of international legal norms applicable to transboundary pollution.[296] Yet careful study of these cases reveals that there may be less law there than first meets the eye. Indeed, these cases may be better understood not as establishing universal norms for transboundary pollution, but rather as examples of fact-specific, equitable balancing by a Court struggling to formulate case-by-case remedies.[297]

Georgia v. Tennessee Copper sometimes is viewed as establishing a kind of strict liability rule requiring the abatement of pollution whenever it causes significant transboundary harm. However, detailed review of the facts and circumstances behind the Court's issuance, and subsequent modification, of the injunction in that case undermines this view. The Court's occasional use of the "unclean hands" doctrine of equity[298] can be read as articulating norms of reciprocity or non-discrimination[299] that may be highly attractive for resolving certain interstate pollution disputes when disputants have reciprocal interests.

The difficulty of identifying legal norms generated by the federal common law of nuisance is in part a product of the Court's concern that it respect principles of separation of powers when fashioning rules of federal common law. From the very start in *Missouri v. Illinois*, Justice Holmes cautioned that in deciding interstate nuisance disputes "this court must determine whether there is any principle of law and, if any, what, on which the plaintiff can recover. But the fact that this court must decide does not mean, of course, that it takes the place of a legislature."[300] Nearly 70 years later, the Court described the enterprise of exercising its original jurisdiction as the "adjudication of controversies between States according to principles of law, some drawn from the international field, some expressing a 'common law' formulated over the decades by this Court."[301]

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[296] See the discussion of the *Trail Smelter* case, supra at __.

[297] See Merrill, supra note __, at 997-98 (describing the Court's decisions during the 1920s and 1930s as "rather sorry examples of 'equity' decisionmaking in the form of ad hoc institutionism.").

[298] See, e.g., Missouri v. Illinois, 200 U.S. 492, 522 ("Where, as here, the plaintiff has sovereign powers and deliberately permits discharges similar to those of which it complains, it not only offers a standard to which the defendant has the right to appeal, but, as some of those discharges are above the intake of St. Louis, it warrants the defendant in demanding the strictest proof that the plaintiff's own conduct does not produce the result . . .").

[299] Thomas Merrill, id., at ___, refers to these principles as "golden rules" or "reverse golden rules". Merrill suggests, for example, that courts hearing transboundary pollution disputes could inquire whether the affected state has been exposed to pollution to a degree that would give rise to a regulatory response if the pollution had been introduced by a private citizen in its state. He also would require source states to treat affected states as well as they treat their own citizens. Id.

[300] Missouri v. Illinois, 200 U.S. 496, 519 (1906).

[301] Vermont v. New York, 417 U.S. 270, 277 (1974).

Separation of powers concerns, coupled with concerns over the judiciary's institutional competency to fashion environmental policy, help explain the Court's ultimate decision to embrace federal legislation as preemptive of federal common law in *City of Milwaukee v. Illinois*. As Justice Rehnquist explained in that case, when the Court previously had formulated "interstate common law" it did so "not because usual separation-of-powers principles do not apply, but rather because interstate disputes frequently call for the application of a federal rule when Congress has not spoken."[302] Once Congress spoke by enacting legislation that regulated the same subject matter that generated interstate nuisance disputes, a Court weary of decades of struggle to resolve such controversies embraced that legislation as preemptive even though it neither directly nor effectively controlled transboundary pollution.[303]

C. The Common Law as an Instrument of Environmental Policy

The history of the Supreme Court's handling of interstate nuisance disputes illustrates both the advantages and disadvantages of using common law approaches to respond to environmental problems. When used to address large, individual sources of emissions (such as Ducktown's copper smelters) that caused visible damage to the environment, successful nuisance suits were possible because the environmental damage was so visible (and unattributable to other causes) that common law causation requirements could be satisfied by plaintiffs. Initially, the common law of nuisance performed primarily a kind of "zoning" function by encouraging dischargers to relocate to areas where they would cause less damage. Eventually it came to be used to help stimulate the development and implementation of improved pollution control technologies. Injunctions issued by the Supreme Court at the behest of states affected by Ducktown's smelter emissions, Chicago's sewage disposal and New York City's ocean dumping ultimately improved environmental conditions. Because courts using common law approaches can more readily engage in a balancing of equities on a case-by-case basis, they have certain distinct advantages over regulatory approaches that do not take into account the effects of pollution or the locations of sources and victims.[304]

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[302] City of Milwaukee v. Illinois, 451 U.S. 304, 316 n. 8.

[303] See Revesz, supra note __, at __; Kay M. Crider, Interstate Air Pollution: Over a Decade of Ineffective Regulation, 64 Chi.-Kent L. Rev. 619 (1989); Stewart, supra note __, at 259-261 (explaining why federal regulatory programs have been ineffective in controlling the kinds of transboundary pollution problems formerly addressed by the now-preempted federal common law of nuisance).

[304] See Andrew Jackson Heimert, Keeping Pigs Out of Parlors: Using Nuisance Law to Affect the Location of Pollution, 27 Envt'l L. 403 (1997). The *Georgia v. Tennessee Copper* decision essentially resulted in the state obtaining a conditional injunction, long before this concept was popularized by *Boomer v. Atlantic Cement Co.* 26 N.Y. 2d 219, 257 N.E.2d 870 (1970). While the subsequent negotiations between Georgia and the two copper companies illustrate the problems of strategic behavior in implementing such remedies, the parties' decision to create an administrative compensation system—implemented through a board of arbitrators—reflects their understanding of the inefficiencies of relying on judicial action as the primary means for providing compensation for environmental damages. As courts struggled to fashion remedies to protect victims of pollution without shutting down valuable enterprises, the common law's most significant contribution was to create incentives to develop improved pollution control technology. It is apparent from the Ducktown experience that the threat of common law liability and particularly the uncertainty concerning the ultimate remedy to be applied by courts in abating nuisances, played a major role in the copper industry's efforts to develop new pollution control technology—leading to the elimination of the open heap process for roasting copper ores and the development of the chamber process of extracting sulphur during the smelting process.

Some significant problems of using federal common law to respond to transboundary pollution problems are illustrated by the history of the interstate nuisance cases. These include the length and complexity of the litigation that must be undertaken to pursue them, and the Court's difficulties in formulating and enforcing remedial orders against government entities. The interstate nuisance cases brought before the Supreme Court were difficult and complex and took years to litigate even when handled through procedures designed to expedite the fact-finding process. As a result, even though the Supreme Court is uniquely invested with the authority to resolve disputes between states under our constitutional system, as a practical matter the Court could only hear a handful of such actions. Thus, when the Court in 1972 faced three applications to bring original cases raising transboundary pollution issues at the same time, it is not surprising that it developed a rationale for declining jurisdiction in favor of other venues. As Justice Harlan explained in *Wyandotte*:

> In our opinion, we may properly exercise such discretion, not simply to shield this Court from noisome, vexatious, or unfamiliar tasks, but also, and we believe principally, as a technique for promoting and furthering the assumptions and value choices that underlie the current role of this Court in the federal system. Protecting this Court *per se* is at best a secondary consideration. What gives rise to the necessity for recognizing such discretion is pre-eminently the diminished societal concern in our function as a court of original jurisdiction and the enhanced importance of our role as the final federal appellate court.[305]

However, once *Milwaukee I* determined that the federal district courts could hear interstate nuisance cases applying federal common law, the specter of multiple federal judges using federal common law to issue pollution control directives caused some of the Justices sufficient anxiety to make preemption a most attractive option.

As noted above, the federal regulatory statutes on which preemption was premised generally have done a poor job of responding to transboundary pollution problems. For example, even though the Clean Air Act has provisions granting EPA authority to require upwind sources of transboundary pollution to reduce emissions to prevent harm to downwind states, until quite recently EPA refused to exercise such authority, and the courts refused to force EPA to act. In one such case, then-Circuit Judge Ruth Bader Ginsburg explained in a concurring opinion:

> As counsel for the EPA acknowledged at oral argument, the EPA has taken *no* action against sources of interstate air pollution under either Section 126(b) or Section 110(a)(2)(E) in the decade-plus since those provisions were enacted. Congress, when it is so minded, is fully capable of instructing the EPA to address particular matters promptly. . . Congress did not supply such direction in this instance; instead, it allowed

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[305] Ohio v. Wyandotte Chemicals Corp., 401 U.S. 493, 499 (1971).

> and has left unchecked the EPA's current approach to interstate air pollution. The judiciary, therefore, is not the proper place in which to urge alteration of the Agency's course.[306]

Congress clearly has the authority to step in to resolve interstate pollution disputes and after a long period of legislative gridlock it took significant steps in this direction when it enacted the Clean Air Act Amendments of 1990. However, as illustrated by the history of the Clean Air Act, the same sort of political factors that make agency officials reluctant to act, also make it difficult for Congress to deal with transboundary pollution issues that create sharp divisions between different regions of the country.[307]

The history of the federal common law of nuisance illustrates the difficulties faced by the Supreme Court in serving as an umpire for interstate pollution disputes. Thus, it is not surprising that the Court ultimately embraced federal regulatory legislation as a justification for retiring from the task of adjudicating interstate pollution controversies. However, despite its inherent drawbacks, the common law's flexibility and case-by-case approach, and the Supreme Court's unique authority to resolve disputes between states, made federal common law an important force in the history of environmental policy.

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[306] New York v. EPA, 852 F.2d 574, 581 (1988) (R. Ginsburg, concurring).
[307] See Stewart, supra note __, at 243.