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## Downstreamers:

### Public Health and Relationships on the Missouri River

AMAHIA MALLEA

The Progressive Era saw tremendous growth in the Midwest. Immigration, migration, and economic development resulted in urban areas along the Missouri River like Sioux City; Omaha; St. Joseph; Kansas City, Kansas; Kansas City, Missouri; and St. Louis. Gathering water from states as diverse as Montana and Missouri, the Missouri River watershed carried wastes from a diverse economy that included agriculture, packing plants, milling, and manufacturing. The Missouri and its tributaries not only flushed waste but also provided the drinking water for this fast-growing population. During the Progressive Era, pollution pressures on the river reached critical mass, prompting concern among citizens, sanitarians, and public health officials.

Two definitions of the Missouri River emerged in the Progressive Era: I call them the Economic River and the Healthy River. These definitions never materialized, but the visions were significant. Historians have given the Economic River substantial attention; the Healthy River has received less notice. By looking at three progressive organizations—the Kansas City Commercial Club, the Missouri River Sanitary Conference, and the Missouri Valley Public Health Association—the Missouri River and public health issues will be used to examine regionalism.

In an 1885 speech given at the Missouri River Convention held in Kansas City, Missouri, a navigation supporter boastfully proclaimed that the Missouri River held the “healthiest water in the world.” As the river tumbled and rolled from the mountains, filled with sand and gold dust, he reasoned that its

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“elegant muddy, golden color” signified “health from its source to its mouth.”<sup>1</sup> This vision of the Missouri River as a conduit of health would change.

In 1910, twenty-five years later to the day, the Missouri River Sanitary Conference, organized by sanitarians, met in Kansas City to discuss public health concerns caused by pollution in the Missouri River. This sanitary conference encapsulated the Healthy River as sanitarians envisioned it. They saw the Missouri and its tributaries as a unified whole. They saw a hydrological system that linked people living upstream with those living downstream. The attendees asserted that upstreamers and downstreamers had a responsibility to each other. This vision of the Missouri River as an entity that could either threaten public health or be used cooperatively as a public resource to the benefit of health was the forward-looking vision of the Healthy River.

Comparatively, boosters of Missouri River navigation envisioned the Economic River. Similarities existed between the views of the river as a mediator of regional sanitary relationships and as a mediator of regional economic relationships. While these two visions of the Missouri River spoke the rhetoric of regional relationships and responsibility, ultimately the visions were representations of disparate Progressive Era factions.

River boosterism was at its height between 1906 and 1915 when the Kansas City Commercial Club led this promotion of Missouri River navigation. Achieving the dream of the Economic River required the maintenance of a channel deep enough for barge traffic. The Kansas City Commercial Club wholeheartedly devoted itself to finding congressional funding for Missouri River navigation.<sup>2</sup> Anticipating the geographical blessing of being on the Missouri at the center of the nation, Kansas City saw itself as the centerpiece of a potential economic powerhouse that hinged on recreating the Missouri River into the midwestern highway. The river would connect every commu-

1. Champion S. Chase of Omaha, as quoted in the *Official Report of the Proceedings of the Missouri River Convention*, held in Kansas City, Missouri, 29–30 December 1885, compiled by Secretary H. M. Kirkpatrick (Kansas City: Lawton and Havens, 1885), 24, Missouri Historical Society, St. Louis.

2. In his chapter “The River Rediscovered,” Schneiders gives a good synopsis of the activism of Kansas City and the club in Missouri River boosterism during the Progressive Era. Robert Kelley Schneiders, *Unruly River: Two Centuries of Change Along the Missouri* (Lawrence: University Press of Kansas, 1999).

nity to greater markets. In 1909, a prominent Kansas City manufacturer and Commercial Club member, Walter S. Dickey, spoke about “responsibility” to the club’s “Use the River” Committee. Referencing the Missouri River boat line and the establishment of an infrastructure supporting river transport, Dickey said that responsibility was “first upon our home city, and second upon all the cities downstream.”<sup>3</sup>

The Commercial Club represented one important strain of progressivism. Throughout the Progressive Era, the Commercial Club members were represented most by the Republican Party, whereas Kansas City’s working classes supported the Democratic Pendergast political machine that was not concerned with river navigation.<sup>4</sup> The over one thousand white, male members of the Commercial Club comprised the economic elite of both Kansas City, Missouri, and Kansas City, Kansas (hereafter the Kansas Citys). The club was civic-minded—supporting the building of parks and other urban improvements—but its motto, “Let’s make Kansas City a great place to live in,” was applied with an eye to the interests of club members. For example, the club favored the professionalization of city government by establishing a city manager system and instituting civil service reform. The club also adopted the rhetoric of conservation ideology to justify development of the Missouri River.

In 1910, while the Kansas City Commercial Club and other boosters in the Missouri River Basin were zealously lobbying Congress for funds for river development, a competing vision emerged. The 1910 convening of the Missouri River Sanitary Conference represented the vision of the Healthy River. The culmination of several things resulted in the organizing of this conference. First, sanitary consciousness had evolved to recognize the growing problems of pollution on the river and to attempt to raise the alarm. Second, the conference emerged amidst the discourse about relationships, communities, and responsibility employed by river boosters. Like the Commercial Club and other river boosters, the sanitary conference sought regional coop-

3. Walter S. Dickey addressing the “Use the River” Committee, 14 April 1909, Kansas City Commercial Club Minutes, v. 24, 69, Western Historical Manuscripts Collection, University of Missouri-Kansas City (hereafter WHMC-KC).

4. For a general overview of how the club fit into Kansas City history, see A. Theodore Brown and Lyle W. Dorsett, *K.C.: A History of Kansas City, Missouri* (Boulder, Colo.: Pruett, 1978).

eration, but the conferees had very different objectives. Finally, the conference represented a group of progressive reformers whose vision of the Healthy River was inimical to that of the Economic River.

The progressive political atmosphere of both Missouri and Kansas in 1910 supported the organizing of the conference and contributed to this concern for public health. The Missouri River Sanitary Conference that met in Kansas City was called by Governor W. R. Stubbs of Kansas with planning aid provided by Governor Herbert S. Hadley of Missouri, both progressives. The state of Kansas had a national reputation for being progressive, and the Kansas State Board of Health likely played the most significant role in instigating the conference. Well before most states, this aggressive Kansas board had pushed for state-level water pollution legislation as early as 1903, revealing the willingness of Kansas to use sanitarians and government to protect public health.<sup>5</sup> Governor Hadley, a member of the pro-business Kansas City Commercial Club, was also a progressive reformer who wished to control the power of corporate entities like Standard Oil and the railroads.

The delegates appointed to the conference were sanitary engineers and public health officials from Missouri, Kansas, Nebraska, Iowa, and South Dakota—all states contiguous to the Missouri River. In terms of attendance, the conference failed; eight delegates from Kansas attended and only one from Nebraska. The state of Missouri—the conference host—was conspicuously absent, and the Commercial Club, despite its fixation with the river, did not contribute or participate at all.<sup>6</sup> The report produced an agenda proposed by the conferees that drew little interest from those in political power after the conference. However, contingency matters; the Missouri River Sanitary Conference that met in 1910 did not achieve its goals, but what the conferees discussed and how they proposed to solve the problem of public health on the river was significant.

5. Kansas State Board of Health, *First Biennial Report, 1901–1902* (Topeka: State Printer, 1902), 10, 37, 38, 75–77, and Kansas State Board of Health, *Biennial Report, 1907–1908* (Topeka: State Printing Office, 1909), 12. The law appeared in *Biennial Report, 1901–1902*, and it was discussed every year from 1901 to 1908.

6. Letter and enclosure from William C. Hoad, engineer with the Kansas State Board of Health and secretary of the Missouri River Sanitary Conference, to Governor Herbert Hadley, 3 January 1911, f. 195, Hadley Papers, Western Historical Manuscripts Collection, University of Missouri-Columbia (hereafter WHMC-Columbia).

The Missouri River Sanitary Conference was at the forefront in addressing the problem of river pollution. The conferees acknowledged that pollution was largely a local issue because no federal legislation existed to control it, rendering downstreamers at the mercy of upstreamers. Of concern to the sanitarians was that a growing population of 800,000 between Sioux City, Iowa, and Kansas City, Missouri, depended on the river as a source of drinking water.<sup>7</sup> Those who polluted above Sioux City and those who were subject to pollution downstream from the Kansas Citys were not included in this count. St. Louis's 700,000 residents also depended largely on the Missouri River for drinking water. For all these people, the river played an essential role.

The population of the Missouri River's watershed was increasing and the subsequent boom in industry further complicated public health issues. Municipal and industrial wastes were a "considerable burden" to the river, declared the conference statement. The Missouri watershed received sewage and waste from between 1.5 and 2 million people in 1910. Large cities on the Missouri River had already chosen to pursue the least expensive method of filtering and treating drinking water at the waterworks and then not treating sewage before releasing it into the river. Over half the watershed's population discharged raw sewage directly into the river. The conferees viewed all these statistics holistically; the conference summation refers to the "drainage area," showing understanding that it was not only the Missouri, but also an even larger hydrological system.<sup>8</sup>

Figures for amounts of industrial waste were unknown at the time, but conference attendees knew that Omaha, St. Joseph, and the Kansas Citys all had large meatpacking enterprises discharging into the river. While packing plant wastes were not considered the root of diseases like typhoid fever, the conference memorandum concluded that they "help to form in the River a favorable environment for the multiplication of disease germs introduced from city sewers."<sup>9</sup> Dr. Connell, the delegate from Nebraska, relayed the

7. Letter, memorandum, and "Joint Resolution" enclosure from Dr. S. J. Crumbine, secretary of the Kansas State Board of Health, to Governor W. R. Stubbs, Correspondence file: Conventions and Congresses (1909–1912, S-T), f. 3, box 3, Governor Stubbs Papers, Kansas State Historical Society, Topeka (hereafter KSHS).

8. Quotes and statistics from Crumbine to Stubbs, memorandum, 1–2.

9. Hoad to Hadley, 3 January 1911, 3, WHMC-Columbia.

details of a serious outbreak of typhoid fever in Omaha due to improper filtration by the city waterworks.<sup>10</sup> Typhoid fever could occur anywhere water became contaminated by the bacteria from raw sewage, and conferees agreed that it was one of the greatest dangers facing residents along the Missouri River. Kansas City alone was discharging forty million gallons of raw sewage daily.<sup>11</sup>

Through the Progressive Era, typhoid fever rates for Kansas City, Missouri, were consistently among the worst in the nation.<sup>12</sup> Although 1910 was a particularly bad year for typhoid fever in both Kansas Citys, the sanitary conference was not the first warning of danger to public health, but rather a culmination of growing concern. The *Kansas City Journal* editorialized as early as 1905: "It is inconceivable that the community will be content much longer to draw its water supply from the Missouri River, polluted as it is by the sewage of three large towns only a few miles above us. Leavenworth, Atchison and St. Joseph, not to mention Omaha and the dozens of smaller places, are pouring a greater volume of filth into the river every year. It comes to us practically unchanged in form or character, the only difference being that it is diluted. To persons of intelligence and refinement the thought of drinking this water is nauseating. No amount of clarification or filtration, if we had it, could disguise the loathsome fact that the Missouri River is becoming a vast cesspool for the drainage and sewage of the multitudes that live on its banks."<sup>13</sup>

The editorial attacked the theory of dilution, which many engineers recommended as an inexpensive and safe natural method of sewage disposal

10. Ibid.

11. Letter from Kansas City Engineer R. E. McDonnell to Kansas City Mayor Darius A. Brown, 29 December 1910, f. 194, Hadley Papers, WHMC-Columbia. The gallons pumped into the city from the waterworks substantiate this statistic.

12. "Typhoid Fever Death Rate . . ." and "Total Cases of Typhoid Fever . . ." graphs, n.d. [1930–1940s], f. 25, Black and Veatch Engineers/Architects Records, WHMC-KC. See the yearly statistics compiled by the Missouri State Board of Health, *Annual Report of the Missouri State Board of Health* (Jefferson City: Tribune Printing, 1908–1912). For a comparison of Progressive Era typhoid fever rates on a national scale and between Kansas City, Missouri, and St. Louis see Martin Melosi, *Sanitary City: Urban Infrastructure in America from Colonial Times to the Present* (Baltimore: Johns Hopkins University Press, 2000), 138, 147.

13. "A Municipal Failure," *Journal* (Kansas City, Mo.), 19 August 1905, box 4, v. 27, 87, Commercial Club Scrapbooks, WHMC-KC.

for towns and cities everywhere.<sup>14</sup> Despite high rates of illness and disgust with the thought of being downstream, Kansas City would not begin to treat its drinking water until 1915—a relatively late date.

Some sanitary engineers did not fail to comment on the theory of dilution and propose alternatives. Robert E. McDonnell was a conference participant, influential sanitarian, and partner in the Kansas City-based firm Burns & McDonnell, which was responsible for engineering the sanitary works of many municipalities in the Missouri River Basin. Through the Progressive Era, he wrote letters to the editor and made presentations on the importance of filtering and treating drinking water and then treating sewage. McDonnell viewed the Missouri River holistically, telling of the sewage treatment plant he installed upstream in Montana, and he expressed concern that irrigation affected Missouri River sanitation. “The volume of water in the Missouri River is decreasing on account of the water from many of its tributaries being used for irrigation. At the same time the sewerage that is poured into it is increasing. Any bacterial analysis shows the water not nearly so pure now as it was a few years ago.”<sup>15</sup> Calling the theory of dilution into question, McDonnell connected sewage disposal and irrigation upstream to problems of public health downstream.

The most significant outcome of the Missouri River Sanitary Conference was the proposed remedy. The attendees adopted a joint resolution for presentation to the states bordering the Missouri River. The resolution recommended that each state establish a commission to study and implement the points of concern, and those state commissions would cooperate with each other. In recognition of the Missouri River’s prominence as a public resource, the resolution encouraged the concern of state legislatures with municipal and industrial pollution. Finally, the resolution declared, “the protection of the Missouri River against injurious pollution and the conservation of its waters for purposes of public water supply are possible only by the joint

14. Nationally prominent Kansas City waterworks engineer Wynkoop Kiersted espoused the theory of dilution in his book *Prevailing Theories and Practices Relating to Sewage Disposal* (New York: John Wiley & Sons, 1894).

15. “Impure Water Causes High Death Rate Here,” *Journal*, 4 May 1912, box 4, v. 1, 22, Commercial Club Scrapbooks, WHMC-KC.



action of the legislatures of the several states affected.”<sup>16</sup> In sum, the delegates recommended to their respective states that action be taken at the interstate level to combat pollution in the Missouri River.

The conferees understood that precedents did not exist for the difficult task at hand. “[I]t was the unanimous opinion of the conferees that any definitive legislative action toward the limitation of the discharge of sewage and industrial wastes into the River should be made common to all States contiguous to the stream. Much was made of the possible unfairness should one or more States fail to unite in such preventive or remedial action.”<sup>17</sup> Though the delegates discussed the possibility of attaining federal funds to investigate river pollution, they did not dwell long on the idea that the federal government could save the day. Nor did they consider federal legislation an option; rather they felt action should come from the states themselves. The desire of the Missouri River Sanitary Conference to see those states involved in the regional river system adopt common legislation to limit and prevent pollution was a vanguard proposal—a vision of the Healthy River.

While the Kansas City Commercial Club represented the Economic River and the Missouri River Sanitary Conference represented the Healthy River, the final organizational example—the Missouri Valley Public Health Association—blended these two visions. In 1915, delegates of the Missouri basin, from Montana to Oklahoma, North Dakota to Missouri, met in Kansas City. The Missouri Valley Public Health Association (MVPHA) was newly organized and this, the association’s first meeting, resembled the Missouri River Sanitary Conference of only five years earlier.

Among the issues discussed at the MVPHA, the most important was river pollution. The rural residents of the Missouri basin probably would have been surprised to learn that cities were counting on farmers to keep urban drinking water supplies pure. A Kansas City, Missouri, newspaper covered the story of the MVPHA conference with an article titled “Farmers Can Help Keep Cities Well.” Rural pollution was “worse than sewage,” declared the newspaper. According to the MVPHA conferees, clean up along riverbanks by farmers would provide safe drinking water. The newspaper reported: “Our

16. Crumbine to Stubbs, “Joint Resolution,” 2, KSHS.

17. *Ibid.*, 3.

drinking water, it was said, is endangered more from the pollution of farms and small towns along the river bank than from the sewage of cities such as St. Joseph and Omaha.”<sup>18</sup>

Perhaps the conferees took a holistic view of the Missouri River system and therefore were concerned how rural areas contributed to the health of the river by preventing soil erosion, protecting stream banks from animals, and maintaining vegetation cover. If the Missouri Valley Public Health Association indeed thought in this holistic manner, then there would be more similarities with the sanitary conference. But, sources indicate that the MVPHA discussed only one specific aspect of pollution—that of farmers’ “garbage,” claiming the potential disease-carrying flies *on* the garbage in the river posed the biggest threat to public health. The assertion that public health rested on the farmers was specious when compared to the volume and content of urban and industrial wastes disposed of in the river.

The president of the MVPHA was Dr. Paul Paquin, director of public health in Kansas City. As former secretary of the Missouri State Board of Health, Paquin’s mission in coming to Kansas City was to put public health in order.<sup>19</sup> Several important gains were made during his time in Kansas City, but it is important to note that Paquin was a very different kind of sanitarian than R. E. McDonnell or those who participated in the Missouri River Sanitary Conference. Illustrative of Paquin’s brand of public health was the 1915 “Fly Swatting” campaign. Fly swatting was upheld as an effective health measure and the public was entreated to swat every fly because flies could carry disease, including typhoid fever. This was a curious individual responsibility at a time when larger municipal programs were likely to result in a better public health record. The health department gave the following advice: “Don’t fail to swat the early fly. It goes hand in hand with cleaning up and is a protection to health. Think what may be accomplished by the death of a pair of flies this early in the season. It will prevent the birth in successive generations of 191,010,000,000,000,000,000,000 more flies during this season.

18. “Farmers Can Help Keep Cities Well,” *Journal*, 29 September 1915, v. 2, scrapbook, Henry L. Jost Papers, WHMC-KC.

19. “Dr. Paquin to Head Health Service,” *Journal*, 28 March 1915, v. 5, 89, Jost Papers, WHMC-KC.

Therefore, swat the fly early and swat it often.”<sup>20</sup>

Paquin issued recommendations to the public with the goal of reducing the contraction of typhoid fever. A newspaper article attributed this message to Paquin: “It is your own fault if you get typhoid fever.” The recommendations for avoiding typhoid fever were individual hygienic responsibilities that included screening food and washing hands.<sup>21</sup> Considering that many people did not have access to city water, not all residents had the same opportunity to avoid typhoid fever. While the bacteriologists and Paquin spoke of the dangers of well and spring water, they said little about the dangers of the city water, as R. E. McDonnell did. The powers of the city to reduce typhoid fever by treating water and sewage were greater than the powers of the individual by swatting flies. Both the sanitary conference and the MVPHA recognized public health in the Missouri River Basin was regional, however, similar to the flies on the garbage in the river, Paquin and the MVPHA concentrated on specific aspects of pollution.

Whereas the Missouri River Sanitary Conference was a profession’s call to arms, the MVPHA was a professional organization devoted to sharing knowledge. The sanitary conference was goal-oriented in seeking revolutionary legislation to ameliorate or prevent pollution, whereas the MVPHA was more conservative in character. The sanitary conference was more holistic while the MVPHA focused on specific aspects of pollution. These two conferences resemble the dissimilar viewpoints of historians Robert Gottlieb and Samuel P. Hays.<sup>22</sup> Whereas in *Forcing the Spring*, Robert Gottlieb saw the local influence of urban communities, in *Conservation and the Gospel of Efficiency*, Hays saw the Progressive Era conservation movement as largely led by a professional elite. Gottlieb criticized the weight historians have given to the influence of professionals in the Progressive Era’s environmental movement. Steeped in specialization, professionals believed themselves to be

20. “Swatting Flies is a Clean-up Duty,” *Journal*, 14 April 1915, v. 2, 139, Jost Papers, WHMC-KC.

21. “How to Avoid Typhoid,” *Journal*, 10 September 1915, v. 2, Jost Papers, WHMC-KC.

22. Robert Gottlieb, *Forcing the Spring: The Transformation of the American Environmental Movement* (Washington, D.C.: Island Press, 1993); Samuel P. Hays, *Conservation and the Gospel of Efficiency: The Progressive Conservation Movement, 1890–1920* (Cambridge: Harvard University Press, 1959).

objective—a quality, Gottlieb argued, that did not represent the successful urban movements of the early twentieth century. Where Hays saw the influence of federal conservation professionals, Gottlieb highlighted communities and professionals that conceived of their surroundings more completely, or as he referred to it, the places we “live, work, and play.”<sup>23</sup> More simply, we could have expected to see Jane Addams at the Missouri River Sanitary Conference and Gifford Pinchot at the Missouri Valley Public Health Association’s meeting.

The MVPHA version of the Healthy River probably could have existed in conjunction with the Economic River. The Missouri River Sanitary Conference, on the other hand, was not compatible with the Economic River. Both visions of the Economic and Healthy Rivers sought to create a community on the river, relied on regionalism, recognized relationships between those upstream and those downstream, and looked beyond political boundaries.

However, there are significant differences between the two visions as well. The Economic River sought to achieve its goals at the federal level, while the Healthy River wanted those directly involved to create interstate agreements. The business community led the drive for the Economic River, while professionals led the push for the Healthy River. Advocates of both visions held a direct stake in the outcome, but each placed emphasis differently—either on economic development or on public health. Both the Commercial Club and sanitarians believed that the river should be developed as a public resource, but the Economic River had a limited beneficiary. The Commercial Club used a rhetoric that could be summed up as economic development equals public good. However, the cost of economic development had casualties. Those who lived in urban river districts—like immigrants, minorities and the working poor—would not participate equally in the wealth gained from river transport. These were the same populations most stricken by the effects of river pollution because they did not have access to good drinking water and other municipal services. The Economic River had limited social benefits and large economic returns, whereas the Healthy River had wide social benefits and possibly limited economic returns.

In conclusion, the willingness to look past the limitations of political

23. Gottlieb, *Forcing the Spring*, 7.

boundaries and address the realities of living upstream and downstream on the Missouri River revealed an advanced intention. Though never actualized, the Economic River and the Healthy River relate to the complexity of progressivism by revealing competing visions of the Missouri River, public health, and regional relationships. The interstate cooperation for public benefit that the Missouri River Sanitary Conference advocated in 1910 is something still not quite achieved nearly a century later.