RHODE ISLAND HISTORY

VOLUME 38:4 NOVEMBER 1979

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The construction of Butler Hospital (1847) and Rhode Island Hospital (above, 1868) marked the advent of institutionalized medicine in Rhode Island.

RHODE ISLAND HISTORY

Published by
THE RHODE ISLAND HISTORICAL SOCIETY, 52 POWER STREET, PROVIDENCE, RHODE ISLAND 02906 and printed by a grant of the STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS, J. Joseph Garrahy, Governor.

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Issued Quarterly at Providence, Rhode Island, February, May, August, and November. Second class postage paid at Providence, Rhode Island.

Editorial offices at Aldrich House, 110 Benevolent Street, Providence, Rhode Island 02906

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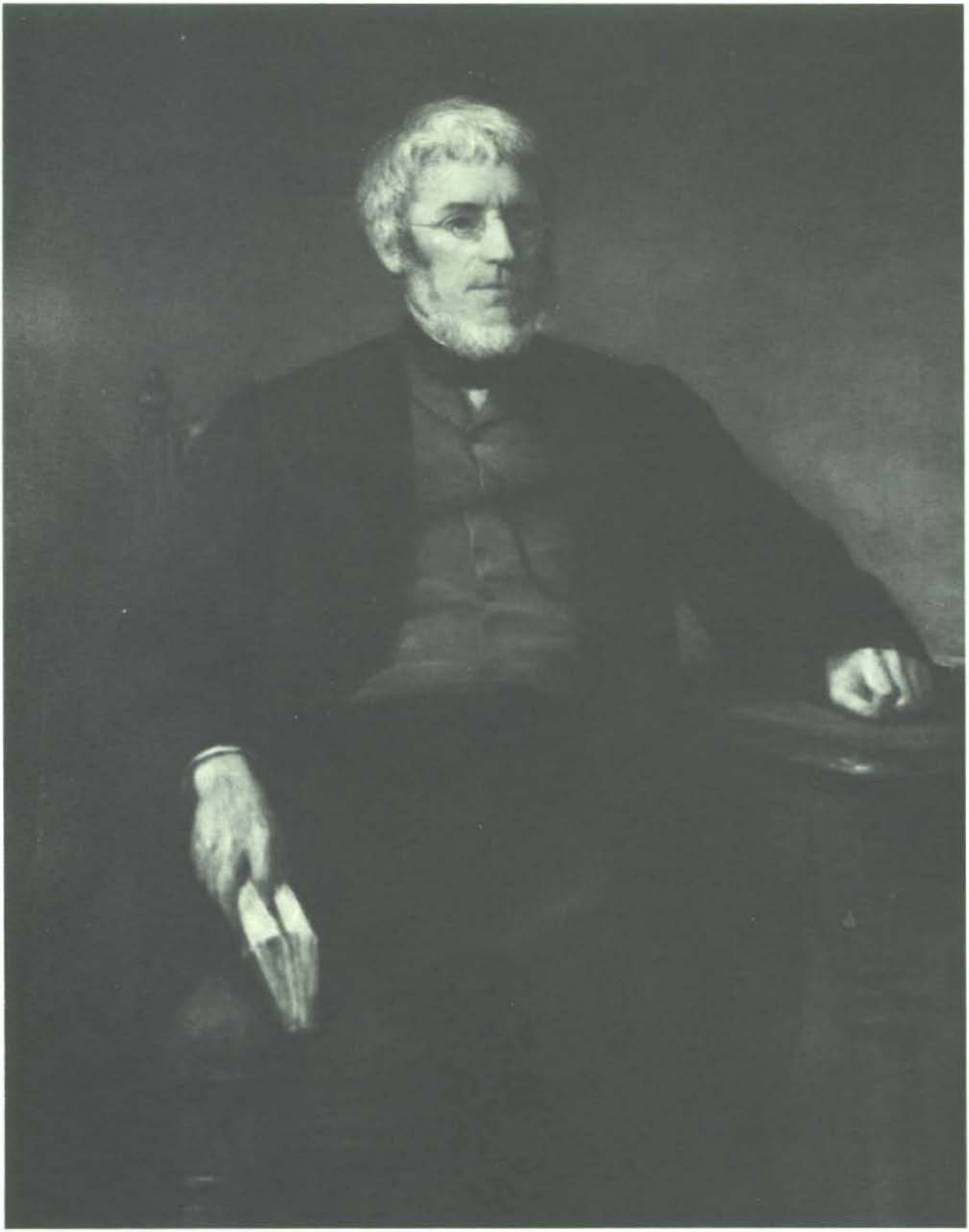
Rhode Island History (1942-) and its predecessors *Rhode Island Historical Society Collections* (1918-1941) and *Publications of the Rhode Island Historical Society* (1893-1901) are available in microform from Xerox University Microfilms, 300 North Zeeb Road, Ann Arbor, Michigan 48106, (313) 761-4700. Please write for complete information. Articles appearing in this journal are abstracted and indexed in *Historical Abstracts* and *America: History and Life.*



Dr. Isaac Ray. Portrait by Richard Morell Staigg. 1867.

Courtesy of Butler Hospital

Isaac Ray and the Profession of Psychiatry

by Fred Jacobs *

When Dr. Isaac Ray left Maine in 1845 to become the first superintendent of Rhode Island's Butler Hospital, he promised to stay only three or four years. Ray, a specialist in the treatment of mental illness, remained at Butler until 1869. During his twenty-four year tenure, he decisively shaped not only the hospital's development, but also the future of the care of the mentally ill in Rhode Island. At the outset, he promoted a vision of universal hospital care for all of the deranged, and made Butler a model of private philanthropy. By the time he left in 1869, Ray encouraged what was already becoming a reality throughout the United States: a segregated system of institutional care in which wealthy or curable patients would be the beneficiaries of institutions such as Butler, while the poor and incurable would be relegated to large public facilities. A study of his impressive and influential career reveals much about the nature of mid-nineteenth century medical practice.

Ray's prominent role in determining how Rhode Island provided for its deranged citizens has received little attention. Some historians have stressed Ray's significance as a spokesman for nineteenth-century American psychiatrists, but they have neglected to examine closely his actual practice of the mental science.[1] David Rothman, for example, relies heavily on Ray's written works and suggests that Ray and his colleagues hoped that the ordered world of the mental hospital would halt the changes that were taking place in Jacksonian America. According to Rothman, they believed that "the new world of the insane [asylum] would correct within its restricted domain the faults of the community and through the power of example spark a general reform movement."[2]

Ray's ideas, however, should be evaluated in light of his work as superintendent of Butler Hospital. Such a perspective indicates that his program at Butler did not correspond in any simple fashion to his perceptions of social decay. Rather than desiring to reform or reconstruct society through the example of the asylum, as Rothman maintains, Ray sought more modestly to establish the place of his medical specialty in American society. This sense of professionalism — the claim that one possesses special learning and expertise, and is therefore entitled to exclusive and autonomous practice in a particular field — was the primary motivation throughout Ray's long career.[3]

Ray's unyielding pursuit of the physicians' right to be exclusive guardians of the insane greatly affected the quality of care that Rhode Island's mentally ill received. His initial campaign — which lasted from 1845 to 1855 — to provide hospital care for all of the state's deranged promised to supplant the vagaries of local provisions for the insane. The regimen of moral treatment he instituted at Butler, whereby the deranged would receive humane, intensive therapy, also offered the hope of recovery to some of the afflicted.

By 1860, Ray was promoting a very different vision of the mission of a mental hospital. When hordes of foreigners flocked to American shores at mid-century, Ray and others recoiled in xenophobic horror. According to Ray, moral treat-

*Mr. Jacobs, a graduate of Brown University, is a student at Cornell Law School.

ment worked well for the native-born population, but not at all for Irish and German immigrants. As a result, he initiated an admissions policy at Butler that had the effect of excluding foreigners. Clinging to his vision of asylum care for all of the insane, however, Ray also espoused a segregated system of mental institutions: small, private hospitals like Butler would serve the presumably curable patients, while large public facilities offering custodial confinement would meet the needs of the allegedly incurable, many of whom happened to be foreign born. When the State Asylum for the Incurable Insane opened in 1870 on the former Howard farm in Cranston, the State of Rhode Island joined New York and Massachusetts in adopting such a system of dual hospital care.

Born in 1807, Ray brought to his profession the curious blend of stolid conservative and anxious reformer attitudes that characterized many of the pioneers of American psychiatry.[4] Ray was raised in Beverly, Massachusetts, a small maritime village twenty-five miles north of Boston. After preparatory school at Phillips Academy, he left Massachusetts at the age of fifteen to attend Bowdoin College in Maine. Bowdoin during the 1820s offered an invigorating environment to such students as Henry Wordsworth Longfellow, Nathaniel Hawthorne, and Luther Bell, who later designed Butler Hospital.[5]

Illness forced a temporary departure from Bowdoin, and Ray returned to Beverly in 1824. While at home, he began to study medicine with a local physician, Dr. Samuel Hart. Ray's searching mind was not content with the lessons of a small-town practitioner; within the year, Ray moved to Boston, where he resumed his medical studies under Dr. George Cheyne Shattuck, second in a long family line of prominent Boston physicians.[6]

Shattuck preached conservative medicine. In an age when quackery and promises of instant cure dominated the healing arts, Shattuck warned Ray of the uncertainties of medical science. Ray's medical dissertation, completed at Bowdoin in 1827, reflected Shattuck's lessons. In his "Remarks on pathological anatomy," Ray inveighed against popular notions of vitalism, a theory that abjured physiological explanations of life processes in favor of mystical ones. Instead, Ray expressed a strong faith in biological descriptions of pathology.[7]

"At the tender age of twenty," Ray wrote in 1855, "being a member of the medical profession in regular standing, I offered my services as practitioner of medicine and surgery to the people of Portland [Maine] in 1827. They manifested no vehement desire to avail themselves of this privilege."[8] To Ray, the moral of his inability to find employment was clear: the success of a physician depended not only on finely honed professional skills, but also on an accepting public.

Perhaps to salve his wounded pride, Ray left America and traveled to Europe. Before long, he was rushing about Paris, attending medical lectures and scribbling entries into his diary. European doctors stood at the forefront of medical research and practice, and Ray observed the latest advances in surgery and hospital care.[9]

Ray returned to Maine in 1829, but decided not to try his luck again in Portland. Instead, he established a general practice in rural Eastport, where the lesser demands of a small town left him free to read the writings of the Europeans. While ministering to the citizens of Eastport between 1829 and 1841, Ray supplemented his formal education by reading the works of European phrenologists J. G. Spurzheim, Franz J. Gall and George Combe, as well as the treatises on moral treatment written by Phillipe Pinel, William Tuke, and Jean Etienne Dominique Esquirol.[10] Such works influenced Ray's decision to become deeply involved in the care of the insane. His choice of a specialization can be understood only in the context of early nineteenth-century developments in European and American medicine.

Pinel's dramatic demonstration in Salpetriere that methods of moral treatment — kindness, humanity, and gentle persuasion — proved far more effective in the care of the insane than seclusion and bondage, and struck at the core of what had heretofore been an exclusively medical enterprise.[11] Reacting against the well-documented abuses in medically managed hospitals for the insane, proponents of moral treatment established their own institutions in which physicians played a clearly subordinate role. William Tuke and his son Samuel founded the York Retreat in England with financial assistance from the Quaker commu-

nity. Frankly antagonistic to the designs of medical men, the younger Tuke reported in 1813 that "the experience of the retreat . . . will not add much to the honor or extent of medical science. I regret . . . to relate the pharmaceutical means which have failed rather than to record those which have succeeded."[12]

Confronted by a treatment which produced more cures and fewer abuses than their own ministrations, English doctors resisted the morally managed institutions. Yet if they hoped to remain active in the care of the insane, these physicians could not ignore the superior performance of the new facilities. Their plight became urgent: a series of exposes in England on conditions in medically run private hospitals further discredited such establishments, while the publication of Tuke's "Description of the Retreat" in 1813 brought national acclaim to York. A reconciliation of moral and medical means remained the only salvation for English doctors if they hoped to continue treating the mentally ill. To achieve the uncertain synthesis, such men depended on the phrenological theories of Spurzheim and Gall.[13]

Moral reformers, more interested in results than in theories, paid little heed to discovering an etiology of insanity. Anxious to bring moral treatment within the purview of their profession, physicians searched for an adequate scientific explanation of the origins of mental disturbances. They formulated a "Cartesian dualism" between mind and body that explained derangement as a disease of the nervous system, rather than of the understanding. The view that the brain, acting as the material instrument of the mind, could become diseased at once avoided the heresy of contradicting the Christian belief in an immortal soul, and provided "proof" that insanity was indeed an organic dysfunction. Formerly explained as a defect of the soul, bizarre or outlandish behavior could be comprehended in phrenological theory as a result of an organic imperfection of the brain. Yet the treatment Spurzheim proposed hardly differed from the techniques applied by the moral managers. In their early stages, he maintained, such maladies could be cured by adhering to a regimen of "fresh air, physical exercise, bland diet with no liquor or tobacco, plenty of rest and sleep and moral uplift, warmth, placidity, and little intellectual effort."[14]

In America, Isaac Ray reasserted the synthesis of moral treatment and medical etiology that had been forged by English physicians. The book in which he accomplished this feat, *A Treatise on the Medical Jurisprudence of Insanity*, first appeared in 1838. Since that time, it has received much attention as a pioneer study of the legal aspects of mental disease.[15] In terms of Ray's career, *Medical Jurisprudence* proved especially important as the reason for his decision to leave Eastport and undertake duties as the head of the Maine Insane Hospital. With the publication of *Medical Jurisprudence*, Ray began his life-long quest to make the care of the insane an exclusively medical enterprise.

Early nineteenth-century American reforms in the care of the insane paralleled European developments. Prior to 1800, those few American doctors who concerned themselves with the mentally deranged relied heavily on the techniques of classical medicine. But such "heroic" therapies, in which patients were bled or otherwise purged, did little to restore the sanity of disturbed individuals, though such depletions might have calmed even the most violent maniac.[16] As in Europe, reform of such medical practices fell therefore into the hands of lay practitioners.

Pennsylvania's Quakers, familiar with Tuke's experiments in moral management, adopted similar techniques at the Friend's Asylum, founded in 1810. Like Tuke, the American Quakers reacted against prevailing medical therapies. Boston's McLean Asylum, opened in 1811, and the Connecticut Retreat in Hartford, founded in 1815, employed doctors in the top positions, but neither of the men in charge paid attention to medical matters. Though they rejected heroic therapies in favor of moral means, Rufus Wyman at McLean and Eli Todd at the Retreat expressed no interest in providing the theoretical reconciliation of their professional training with the new mode of treatment. By 1820, then, the care of the mentally ill could not be considered a growth industry for American physicians. "It appeared to many," observes historian Norman Dain, "that the only requirements for practicing moral care of the insane were human sympathy and common sense, attributes not confined to the medical profession."[17]

Discouraged but not defeated, American doctors, like their English counterparts, fought vi-

gorously to win complete control of the care of the insane. Ray's *Medical Jurisprudence* was a major weapon in the fight. In it, Ray unhesitatingly articulated the rationale for the treatment of the insane exclusively by trained physicians. As diagnostician and minister of appropriate remedies, the medical specialist offered — in Ray's assessment — unique and indispensable services.

Foremost in Ray's mind, and crucial to the professional defense, was the notion that the deranged individual suffered from an organic condition hardly different from any other physiological dysfuncion. "No pathological fact is better established," he wrote assuredly, "than that deviations from the healthy structure are generally present in the brains of insane subjects."[18] Despite the limitation that such pathological changes could not be readily identified and corrected, Ray spoke confidently, if somewhat defensively, of medicine's unassailable right to the exclusive care of those afflicted with madness: "To distinguish the manifestations of health from those of disease requires the exercise of special learning and judgement; and if no one doubts this proposition when stated in reference to the bowels, the lungs, etc., why should it be doubted when predicated of the brain?"[19]

Phrenological theories provided both a physiological explanation of insanity and a program of treatment, and suggested to Ray, just as they did to English physicians, the needed link between the uncertain pathological origins of madness and the use of moral therapy. If "the human brain is directly affected by bodily health," as Ray and the phrenologists maintained, then the deranged mind could be cured by adhering to a regimen of exercise, proper diet, sufficient sleep and relaxation.[20] The need for medical training was thus minimized.

Ray did not limit his study to the treatment of insanity. He believed that court proceedings affecting the insane, no less than therapeutic decisions, should be the special province of the medical witness, possessing "extraordinary knowledge and skill relative to the particular disease, insanity." The judicial system of Ray's time excused crimes by reason of insanity only when the defense could prove that an accused individual retained "not the slightest vestige of rationality." Ray held that this one-hundred-year-old dictum failed to take into account the knowledge accumulated by experts in the treatment of mental diseases. Close observations of the insane by medical men revealed that the disease went through various phases, some involving a complete loss of rationality, others so mild as to seem to the untrained eye a sure sign of normality. Only the counsel of an expert medical witness, Ray maintained, could distinguish feigned from genuine insanity.[21]

Three years after the publication of *Medical Jurisprudence*, Ray left his general practice to assume the superintendency of the Maine Insane Hospital, a public facility that had been founded in 1840.[22] His decision marked the beginning of a distinguished career in which he manifested an almost missionary zeal in matters of insanity. Yet Ray's ardor and pertinacity reflected less an "enlightenment" faith in man's perfectability or the response of an outraged humanitarian to the mistreatment of the insane than it did a quest to make the care of the mentally deranged an exclusively medical enterprise. Ray did not make laboratory discoveries that placed the treatment of insanity on firmer biological grounds; rather, like his English counterparts, he sought to prove that medically trained specialists, not lay reformers, were best suited to practice moral treatment of the deranged.

Ray's professional frustration as the superintendent of the Maine Insane Hospital quickly became evident, however. Above all, his dissatisfaction reflected the constraints of a public position. Ray's performance as superintendent received legislative scrutiny, and in one instance, public ridicule. The Maine Hospital's design offered none of the structural accoutrements he thought so vital to the proper care of the insane. "To state all of the faults of Worcester Hospital" and other public institutions, Ray observed in 1844, "would require a volume." By 1845, he welcomed a change. When the trustees of the newly created Butler Hospital in Rhode Island offered Ray the superintendency in January of that year, he eagerly accepted.[23]

For a concerned professional like Ray, the Butler position seemed ideal. Here he had an opportunity to contribute to the Butler design, so that the final product might demonstrate the preeminence of medical specialists in all facets of the care of

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Engraving of Butler Hospital.

the insane. As an employee of private philanthropists, he would be free from the watchful eye of state government. He would be at the helm of an institution where financial support came from individuals whose education and background resembled his own, and who had a strong faith in his specialty.[24]

Arriving in Rhode Island, Ray proposed only slight modifications in the plan for Butler which had been submitted by Luther Bell, Ray's classmate at Bowdoin and the superintendent of McLean Hospital in Boston.[25] Like Ray, Bell had little respect for American hospital design. "The construction of insane hospitals in this country is still quite in its infancy. . . . There are forms of construction far better than we have," he observed in 1844. Instead, Bell looked to Europe for more suitable examples of hospital design, and submitted what he called an "ideal plan" for Butler, based on the precedents of English and Scottish institutions.[26]

Perched above the Seekonk River, Butler's main building was set amidst 113 acres of wooded hills, open fields, and dramatic vistas. Two-hundred eighty feet long, the E-shaped structure also included two wings, each 145 feet long and two stories high, as well as a shorter central projection containing facilities for heating, cooking, and laundry. Decorative masonry and other embellishments adorned the exterior of the hospital, reflecting the belief that an asylym for the insane, no less than a church or a state capital, should be a work of ornamental as well as practical design.[27]

To the practitioners of moral treatment, a salubrious physical environment contributed significantly to the mental well-being of the patients. Medical therapies had less to do with recovery than clean air, commodious apartments, and comfortable furnishings. Thus, Butler included no facilities for medical surgery or laboratory work.

Though each ward contained a "bathing room" with facilities to treat the most serious paroxysms of the deranged, the curative mechanisms of the hospital could be found in apparently non-medical features. For Ray and Bell, the achievement of the medical profession would be to design a hospital which proved far superior to the morally managed institutions founded by laymen like Tuke and the Pennsylvania Friends.[28]

The hospital created an ambience that Ray hoped was conducive to improvement of the mentally ill through other structural provisions. Instead of the low, narrow, dimly-lit corridors so characteristic of public institutions of the time, Butler incorporated "galleries" for patient quarters. One side of each hallway contained staff and patients' rooms, while the open windows of the opposite side provided illumination and a pleasant view.[29] Each hallway contained common rooms for recreation, while attendants' quarters were carefully placed to afford a view of the patients without constant and obtrusive surveillance.

For the violently insane, Ray and Bell strove to provide secure, yet humane facilities. Decorative iron grates performed the functions of window bars, but avoided the appearance of a jail. Built-in furniture guaranteed security but mitigated the sterility of a barren room, while the violent patients could in their quieter moments enjoy unrestrained freedom in an adjacent hall.[30]

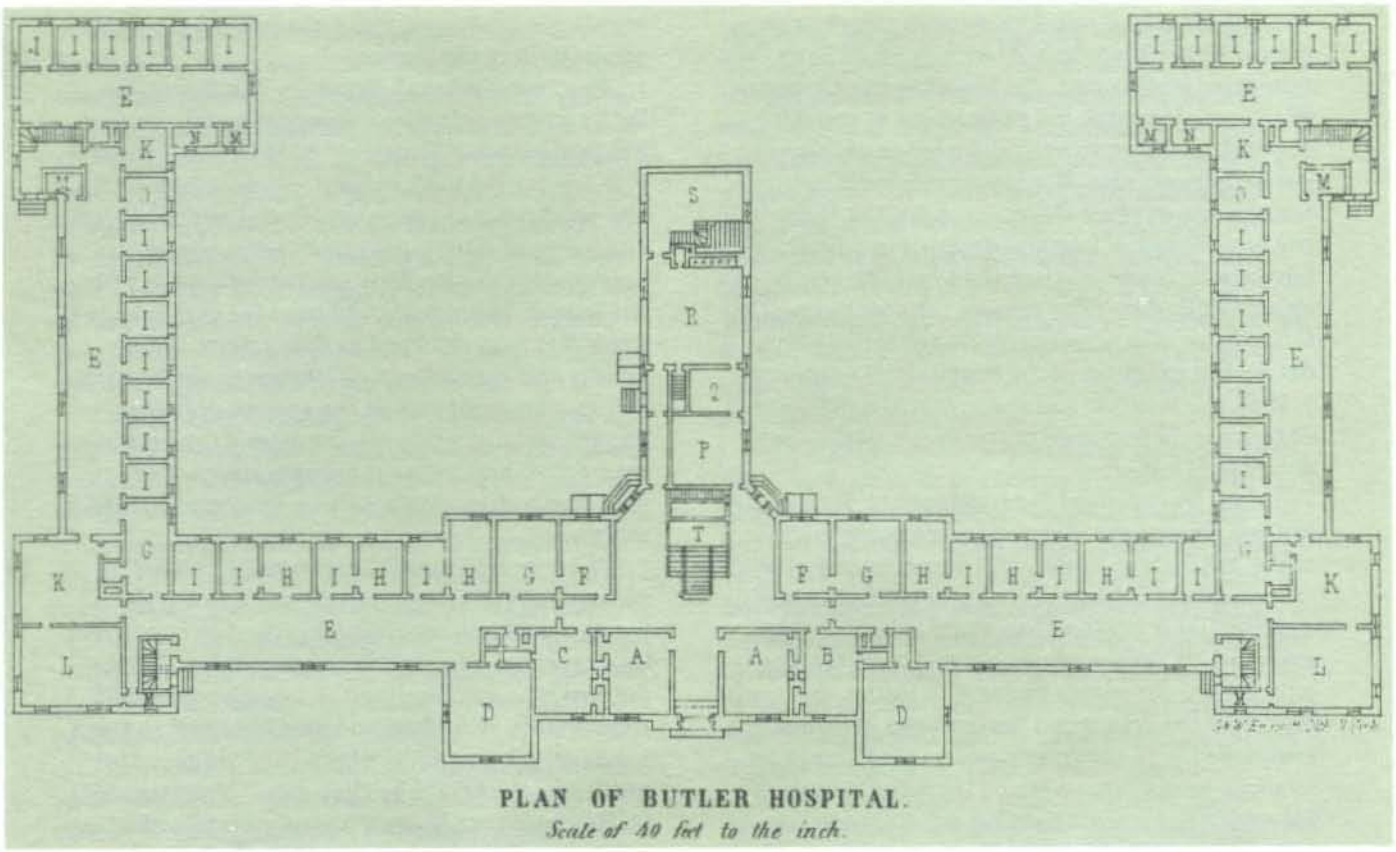
Butler contained three other types of accomodations. For paupers, there were four dormitories, each with room for six patients. More affluent clients could choose a private room with all the furnishings of a domestic chamber. The wealthiest individuals might choose one of twelve two-room suites. In addition to the twenty-four beds for paupers, Butler contained eighty-four single sleeping rooms, giving the hospital a total capacity of 108 patients, with room for an estimated thirty more in the unfinished third floor.[31]

The hospital came close to matching Ray's high expectations. The poor, he wrote, would "be provided for in a manner equal to that of our best State institutions, while the rich would receive something like an equivalent for any compensation they might be required to make." Ray delivered a warm encomium on the completed structure. "The different divisions of the edifice are tastefully grouped together in Tudor-Gothic style," he approvingly observed, "while the various bold projections give Butler an air of retirement and repose exceedingly appropriate to the character of the establishment."[32]

Butler's success depended in large measure on the public's favorable reception; Ray and the trustees had to present a convincing argument for the advantages of hospital treatment over more economical provisions in homes or local poorhouses and jails. A medical etiology of insanity might have convinced Ray and his colleagues of the importance of specialized asylums for the deranged, but how could these professionals justify the need for such care to a cost-conscious, often skeptical public?

The advantages of hospital over home care, Ray argued, were those of degree rather than of kind. "Very much of the advantage possessed by hospitals over private families," he had written in 1844, "consists in the greater fidelity with which this kind of treatment can be pursued." In fact, according to Ray, the chaotic home life of many families contributed to the increase in mental pathology. Only the judicious ministrations of the experienced hospital superintendent could minimize the effect of such disturbances by secluding afflicted individuals "from whatever tends to produce excessive emotions." The trustees concurred in Ray's evaluation, declaring in their "Remarks" of 1847 that those possessing "any knowledge of the subject" would readily acknowledge that the insane would be better off in "establishments designed expressly for the purpose than in private families." Moral means, far more important to curing mental disease than medical ones, "are obtained only in the greatest perfection in public establishments."[33]

The mental hospital also surpassed local provisions for the incurably insane. According to the trustees, the spacious and comfortable halls of the asylum gave relief to those who would otherwise be "confined in cages, or narrow rooms, badly lighted, warmed and ventilated, where they spend the wretched remnant of their days, deprived of every alleviation of their misery." Considerations of public safety also made the confinement of such individuals necessary; if the deranged had to be restrained, the specialized asylum offered the only humane way to achieve this purpose. "The safety of society requires . . . that this class of per-



PLAN OF BUTLER HOSPITAL.
Scale of 40 feet to the inch.

☞ **References to the Plan.**

A. A. Reception rooms; B. Doctor's office; C. Steward's office; D. D. Common Parlors for patients occupying front galleries; E. Halls for patients; F. Rooms in which patients see their friends; G. Dining room; H. Private parlors; I. Sleeping rooms; K. Attendant's rooms; L. Associated dormitories; M. Water-closets; N. Bathing rooms; O. Wash rooms; P. Domestics' Dining room, [the door into the entry is accidentally omitted]; Q. Matron's store room; R. Kitchen; S. Ironing and Drying room; T. Store room.

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Butler's innovative plan was published in the hospital's annual report of 1849 and with an article in the American Journal of Insanity.

sons should have their abode where they will be deprived of no necessary comfort, and allowed many which they scarcely knew before," the trustees concluded.[34]

Rhode Island in the 1840s seemed — on the surface — receptive to the arguments made by Ray and the trustees. In 1847, the General Assembly authorized the towns to send any "lunatic or person furiously mad" as well as insane paupers to Butler Hospital.[35] Local newspapers urged the towns to heed the legislature's recommendation, citing the litany of horrifying abuses found in local asylums, poorhouses, and workhouses that Dorothea Dix and others had exposed. The *Newport Mercury* noted that "few persons are aware of the sufferings that have been endured by this afflicted class of people. Others remain in town asylums where they seem doomed hopelessly to perish, without an effort being made for their restoration by their fellow men."[36]

The vision of hospital care for the insane espoused by Ray and the trustees did not at first appeal to all Rhode Islanders. By December 1, 1847, the hospital received only a small fraction of the state's insane. Ray lamented in his first report that "only four towns in the state have assumed in any degree, the maintenance of their insane poor in the hospital." After two months, the hospital

was less than half full. The meager response perplexed Butler's trustees. They had set $2.25 as the minimum weekly rate, 25¢ less than the charge at Worcester Hospital, but most towns in the state seemed unwilling to avail themselves of this apparent bargain rate. For the towns, it did not make sense to place their insane poor at Butler; the annual cost of keeping a pauper in a local asylum or poorhouse was less than half the yearly charge at Butler. "The present number of patients," the trustees warned, "is not sufficient to defray the expenses of the hospital." By January 1, 1849, the hospital had accumulated a deficit of $4,016, nearly one-third of the year's total expenditure of $14,467.[37]

Initial fears proved to be unfounded. By the end of 1849, Ray reported that patients occupied 107 of the 108 beds at Butler, and wrote happily that "the number of those who sought the benefits of the hospital is greater than could be reasonably expected."[38] Yet the towns seemed to be sending only their most unruly patients to Butler, and Ray, ever the concerned professional, remained unsatisfied with the state's self-serving reception.

Ray's uneasiness reflected his belief that the success of the mental hospital still depended on voluntary expressions of public faith. "In common with other institutions of a similar kind," he observed in 1849, "our appropriate duties are performed rather by sufferance of public sentiment than any sanction of law, and thus we live constantly at the mercy of excited passion and prejudice."[39] No Jacksonian, Ray evinced little faith in the good sense of the "people." He had experienced first hand the whimsical nature of popular opinion in 1827, when he could find no work as a general practitioner in Portland. Such opinion seemed in certain respects to favor Butler Hospital in 1850, but might it not at any moment turn against the hospital's purposes? Ray's mission remained unfinished until society and government recognized — through statutes and administrative procedures — his vision of the specialized hospital as the exclusive asylum for all of the insane.

Ray and the trustees fought vigorously between 1849 and 1852 to establish Butler Hospital as the appropriate institution for the state's deranged. In their campaign, they stressed the unique services provided by such asylums, the absence of humane alternatives, and the need for legislation that recognized the importance of hospitalization of the deranged.

The trustees noted especially the distinction between domestic care and moral treatment in a hospital in their "Remarks" of 1847: the institution eliminated the insidious effects of home life, and replaced them with an ordered, peaceful, and closely supervised existence.[40] Other arguments accentuated the need for specialized asylums for the insane. In stressing the need for such institutions, Ray was oblivious to alternatives. Poorhouses and almshouses, anathema to the hospital vision, suggested to Ray the specter of human cruelty and neglect. Like Dorothea Dix, his lifetime friend and frequent correspondent, Ray mounted a strenuous attack on local provisions for the insane.

The common notion that cases of chronic insanity could be adequately cared for in a poorhouse would not, according to Ray, "be confirmed by a practical examination of the subject. Those persons who are described as being so quiet and comfortable, will often be found banished to some house on the premises, where they are cared for much like the brutes by their side." Unfortunately, Ray could not present a local example of such barbarism. The discovery in 1843 of Abram Simmons, an insane man from Little Compton who was confined in an unheated stone cell, had sparked the drive to found Butler Hospital. Since that time, however, no similar scandals had come to light. Nevertheless, Ray persisted by citing examples from other locales which, he maintained, were certain to be replicated in Rhode Island. In his *Third Annual Report* in 1850, Ray discussed the Irish practice of burying the insane in neck-deep earthen holes. The implication seemed obvious to Ray: "I believe . . . it [the Irish practice] is not materially different from what may be witnessed not unfrequently among ourselves."[41]

Not satisfied with the proof offered by such isolated and distant examples, Ray had suggested the need for a thorough investigation of local institutions for the mentally ill. He assumed such an inquiry would document his assertions. Accordingly, Thomas Hazard in 1850 offered his services to the General Assembly. Hazard, a founder and vice president of Butler, delivered a 110-page report to the January 1851 session of the General Assembly.[42]

Hazard had ferreted out the half-frozen Simmons seven years earlier, but in 1851 he presented a surprisingly moderate appraisal of conditions in local asylums and poorhouses. He found abuses — of three insane individuals kept in Portsmouth, "one is now chained and has been for many years" — but he suggested that such instances proved to be the exception. Of the eighty-six deranged persons still maintained locally, Hazard recommended only sixteen for hospital care at Butler. The rest, he concluded, "were as well situated as they could be if placed in a larger institution."[43]

Though Hazard's findings seemed heretical to Ray's credo, the Butler chief issued no retort. He accepted Hazard's statistical findings but discarded the conclusion that local institutions might offer adequate care for the insane. "If anyone doubts that we are dealing with an evil of trifling magnitude," Ray warned solemnly, "let him be reminded that from the report of the commissioner appointed by the General Assembly, it appears there were . . . eighty-six persons in the poorhouses of the State."[44]

The success of a hospital for the insane depended on something more than the pleas of a concerned humanitarian. Ray's familiarity with the legal nuances of mental disease alerted him to the need for formal commitment procedures. Though the common law permitted restraint of those individuals whose freedom threatened public safety, Ray had insisted in his *Treatise on the Medical Jurisprudence of Insanity* that "the great law of humanity" justified confinement in a curative setting. Writing in the *Monthly Law Reporter* in 1850, Ray expressed concern that "the confinement of the insane is regulated in most, if not all the states, by no state law whatsoever." The absence of statutory provisions suggested to him the uncomfortable prospect that "nine-tenths of our patients might . . . be discharged by means of a writ of habeas corpus, and the officers . . . liable to a prosecution for false imprisonment."[45]

In place of such threatening uncertainty, Ray presented a draft for a law that would make confinement of the insane by medical certification a legally recognized procedure. He proposed in the *Annual Report* of 1851 that friends or relatives could confine someone in an asylum whom they considered insane with the approval of a judge and the written certification of one or two "respectable" physicians, attesting that the individual was indeed insane. In disputed cases, a commission of five or six would determine for the court whether the person's condition warranted restraint. The same commission could decide if a person should be restored to liberty and would therefore shield the hospital from the legal recriminations of which Ray was so fearful. Almost before the ink had dried on Ray's *Report*, the General Assembly enacted a commitment law, the second in the nation. Except for minor modifications, the Rhode Island statute incorporated the principles set forth by Ray.[46]

Ray and the trustees hoped that financial incentives from state government might also facilitate acceptance of Butler Hospital. Under the original plan, the state's towns paid a yearly minimum of $127 for the upkeep of a single resident at Butler. This figure compared unfavorably with the annual cost at local poorhouses, a mere $51.50 by Hazard's account. To make confinement at Butler an economic alternative to local care, the trustees suggested that "the state defray a certain proportion of the expense of every pauper."[47]

Earlier proposals for state assistance had failed, but the proposal of 1851 came when attitudes toward deviant groups were becoming more enlightened. Beginning in 1850, the state offered free schooling to deaf and blind children in out-of-state institutions, while the General Assembly abolished the death penalty in 1852. The Prison Inspection Board noted that "an enlightened amelioration has been made in the discipline" of the state jail: "Books are provided, not merely of moral and religious character, but books of travel and rational amusement, and leisure is afforded to read them."[48]

Butler benefited from these sympathetic attitudes. The *Providence Journal* commended the hospital's *Annual Report* of 1852 to "the attention of the intelligent and humane in the hope that this will lead to an increasing interest in an institution which reflects so much credit upon the state." With little prodding, therefore, the General Assembly allocated one thousand dollars per year to be used to maintain the insane poor at Butler. The state would contribute sixty dollars per patient, while the remaining sixty-seven dollars would be paid by the city or town in which the pauper had residence. By Hazard's estimate, the

average town asylum spent $51.50 to maintain a pauper, so that the state subsidy made hospitalization a frugal alternative to local care.[49]

Thanks to the legislation of 1851, and the favorable climate, Butler achieved acceptance as the primary institution for care of the insane in Rhode Island. Legislative allowances for the care of the poor and a flexible commitment law eased the flow of the insane into the institution. In 1852, only four years after accepting the first patient, Butler received more referrals than it could accommodate.[50]

Because it cared for insane paupers, Butler resembled a public hospital. Since it was privately controlled, however, it avoided the governmental meddling and close public scrutiny experienced by most state hospitals. Ray, obviously pleased with his independence, observed that Butler was "perfectly exempt from extraneous influence, the superintendent and directors acting in their several spheres."[51]

In using such freedom, Ray's Butler Hospital — in its first decade — offered an environment somewhat different from that described by the historian David Rothman. According to Rothman, reformers and medical superintendents founded insane asylums as "both an attempt to compensate for public disorder in a particular setting and to demonstrate the correct rules of social organization." Toward such ends, the internal management of these institutions stressed regularity, order and routine as an antidote to the chaotic demeanor of Jacksonian society. Ray, in contrast, offered no solutions to general social problems through the internal management of the asylum, though his critique of American society superficially resembled concerns expressed by his contemporaries. For example, in the change from a stable, disciplined agrarian society to the uncertainty and alienation of the urban and industrial age, Ray discovered the "secret-springs" of mental derangement. Americans, he concluded, had forsaken the peaceful, healthy pursuits of colonial times for the contemporary quest for wealth and power. In doing so, Ray worried, they had weakened the physical organ and invited the onset of mental disease.[52]

Yet Ray did not conclude that these conditions warranted removal from society. Thus, Butler's management exhibited none of the strict discipline so characteristic of the institutions described by Rothman. Instead, Ray sought constantly to mitigate the tendency towards a hospital regimen based on precision and regularity. "We are biased by no theory," Ray declared in 1848, and his statement was borne out by the program at Butler. Instead of the trappings of militaristic regularity, Ray argued, hospitals should be furnished "with whatever can approximate them to the character of a domestic dwelling." He suggested that "every year should witness some addition, useful or ornamental, calculated not only to invite the return of reason, but to relieve the tedium of confinement."[53] He also stressed "the importance of a great variety of amusements, and especially of such as require no effort on the part of the patient."[54]

According to Ray, care rather than cure best described the function of an asylum for the insane. This emphasis also set Butler apart from other institutions. Between 1840 and 1855, asylum superintendents tried to surpass each other in reports of the number of patients cured by their respective hospitals. Some even claimed to have successfully treated all of their clients.[55]

Ray worried that such simple statistical evaluations of an asylum's worth would lead the public astray. A single percentage figure offered a ready, though inaccurate, index for assessing the value of an institution and did not, according to Ray, do justice to the careful but usually unspectacular work done by moral managers.[56] At Butler the rate of recovery rarely topped fifty percent of the patients discharged; Ray indicated that about one in three of the patients referred to Butler left fully cured.

It was this vision of the peaceful, quiet, professionally managed asylum that Ray and the trustees sought to protect against the incursions of immigrants who streamed to Rhode Island's shores throughout the antebellum period. In 1850, one-sixth of Rhode Island's population was of foreign birth; fifteen years later, more than a third claimed alien birth or foreign parentage. The rising tide of immigration prompted a spate of nativism in Rhode Island, which reached a climax in 1855 when the Know-Nothing party swept the state elections.[57]

Ray and the trustees shared in the xenophobia of the times. As early as 1850, the trustees be-

moaned the fact that "aliens and strangers should have more reason to bless the benevolence that opened to them such an Asylum, than our native population for whom mainly it was designed." To Ray, the foreign presence was far more troublesome. Moral management proved ineffective with foreigners, a failure which Ray attributed "in some degree . . . to an inability to approach them in a proper way." In particular, he concluded in 1856 that "the Irish . . . are preeminently incurable. We are bound to expect, therefore a constantly increasing accumulation of incurable cases from this quarter, a fact that must be taken into account in making provision for future hospital accomodations."[58] The stable world of the antebellum asylum seemed threatened by a population immune to its ministrations.

Beginning in 1857, Butler Hospital initiated a restrictive admissions policy, that had the effect of excluding many of the foreign born. The trustees requested that Providence and other towns remove their pauper insane, most of them of foreign extraction, from Butler. Some of the deranged were returned to local asylums and poorhouses, but many others had no residency in the state and therefore did not qualify for local relief.[59] Confronted with the problem of large numbers of homeless pauper insane, some municipalities began — with financial assistance from the state — to send their indigent deranged to hospitals in Vermont and Massachusetts.[60]

Those removed from Butler were chosen according to ethnic groups. Of the seventy-eight paupers remaining at Butler in 1865, only twelve (fifteen percent) were definitely of Irish background. In contrast, forty-two percent of the twenty-four Rhode Island paupers supported in Vermont had Irish surnames.[61] Butler's decision to limit admissions of the pauper insane clearly reflected nativist prejudices.

To Ray, the logic behind the creation of an exclusive retreat serving only the native born was simple. Proper medical care of the deranged depended on the ability of superintendents to practice moral treatment. Since the Irish appeared to Ray to be impervious to moral therapies, Butler's maintainence of foreign born would deprive others, presumably those of native stock, of a chance for recovery.

In his book entitled *Mental Hygiene*, published in 1863, Ray further elaborated the rationale for the selective asylum. A hereditary predisposition seemed to him as important as environmental influences in creating the deranged mind. Ray warned that "intimate associations with persons affected with nervous disorders, should be avoided by all those who are endowed with a susceptible nervous organization." He recommended a program of professional intervention before the weakened constitution could succumb to such external threats.[62] Yet who but the wealthy could afford to use the mental hospital as a retreat from the pressures of everyday life?

Though Butler still accepted pauper patients when Ray resigned in 1868, it did so less out of a desire to serve all of the insane than out of a need to keep its beds full. Rhode Island's Secretary of State reported in 1864 that "Butler receives state beneficiaries whenever it has room for them"; two years later, he noted that Butler proved "unable, from want of room, or from other causes, to receive the state's insane."[63]

Dr. John R. Sawyer, Ray's successor, clearly articulated the hospital's new policy. "But many cases arise of persons who have no friends to visit or care for them," he wrote in 1869, "foreigners perhaps, with no ties to person or place, who are incurably insane . . . it is the truest charity as well as the wisest policy, to recommend the removal of this class to other institutions." The trustees obviously agreed with Sawyer; in 1871 they cheered the fact that for the first time in its history, Butler was free of the pauper insane. Instead, the hospital now served what they called a "better class of patients."[64]

By then, Ray had retired to Philadelphia, where he engaged in a lucrative practice as an expert psychiatric witness until his death in 1881.[65] His vision of Butler as an institution caring for all of Rhode Island's insane had vanished by the time of his departure from the state. Confronted by an influx of aliens who seemed to threaten the peaceful world of Butler, Ray and the trustees had shrunk from their self-appointed responsibility as caretakers of all the state's insane and ushered in an age during which Butler served only a limited segment of the deranged.

Following Ray's suggestion that "the comfort and restoration of the insane are best secured by keeping the curable and incurable in different es-

tablishments," several states had begun in the 1860s to create large, custodial institutions for the chronically ill.[66] In 1869 the Rhode Island General Assembly authorized construction of a State Asylum for the Incurable Insane.

In theory, the opening of the State Asylum in 1870 marked the beginning of a system of caring for the insane that made optimal use of facilities within the state. Butler would minister to the curably insane, while the chronically ill could find a home for life at the State Asylum in Cranston. In reality, potent social values of nativism and fiscal conservatism made Buter an institution of last resort for the poor. To the pauper insane, the state offered only the custodial facilities of the Cranston Asylum. This segregated system of hospital care remained unchanged for the next century. Until 1978, when Butler again began accepting public patients through an arrangement with the Providence Mental Health Center, the state institution at Cranston was the final resting place for many poverty-stricken mentally ill.

1 See for example David Rothman, *The Discovery of the Asylum* (Boston, 1971), 109-129; Norman Dain, *Concepts of Insanity in the United States, 1789-1965* (Brunswick, N.J., 1964), 74 ff.; Gerald Grob, *Mental Institutions in America: Social Policy to 1875* (New York, 1973).

2 Rothman, *Discovery of the Asylum*, 133.

3 Some of the subsequent analysis of professionalism is based on Talcott Parson, "The Professions and Social Structure," in *Essays on Sociological Theory* (Glencoe, 1954), 34-49 and Eliot Friedson, *Profession of Medicine* (New York, 1972), Chs. II-IV.

4 On the backgrounds of American medical superintendents, see Dain, *Concepts of Insanity*, 57-58; Rothman, *Discovery of the Asylum*, 109-129, and Winfred Overholser, "The Founding and the Founders of the Association," in J.K. Hall, ed., *One Hundred Years of American Psychiatry* (New York, 1974), 46-52.

5 Jacques M. Quen, "Isaac Ray and Mental Hygiene in America," *Annals of the New York Academy of Sciences*, CCXCI (1977), 83.

6 *Ibid.*

7 Edward Jarvis, "Memoir of George Cheyne Shattuck, M.D. read April 12, 1854," Sidney Rider Collection, John Hay Library, Brown University; Quen, "Isaac Ray," 83.

8 Quoted in Quen, "Isaac Ray," 83.

9 Overholser, "Founding of the Association," 67.

10 Ray's personal library, maintained at Butler Hospital, includes Phillipe Pinel, *Treatiste on Mental Alienation* (London, 1806); Jean Etienne Dominique Esquirol, *Mental Maladies, a Treatise on Insanity*; Samuel Tuke, *Description of the Retreat* (London, 1813); Franz Gall, *Esposition of the Physionomic Doctrine of Dr. Gall* (Paris, 1822); Gaspar Spurzheim, *Phrenology, or the Doctrine of the Mind, and of the Relations between its Manifestations and the Body* (London, 1825); as well as works by Andrew Combe, and his brother George.

11 Andrew Scull, "From Madness to Mental Illness," *Archivees Europeenes de Sociologie*, XVI (1975), 218-261, and Scull, "Mad Doctors and Magistrates: English Psychiatry's Struggle for Professional Autonomy in the Nineteenth Century," *ibid.*, XVII (1976), 279-305, provide a useful framework for understanding Ray's career.

12 Quoted in Scull, "From Madness to Mental Illness," 226.

13 *Ibid.*, 229, 233-235.

14 *Ibid.*, 253-254, 255; John D. Davies, *Phrenology: Fad and Science, A 19th Century American Crusade* (New Haven, 1955), 91.

15 Isaac Ray, *A Treatise on the Medical Jurisprudence of Insanity* (Boston, 1838).

16 For an account of the use of traditional medical therapies in the care of the insane, see Dain, *Concepts of Insanity*, 10.

17 *Ibid.*, 26-27, 31, 32.

18 Ray, *Medical Jurisprudence*, 69.

19 *Ibid.*, 39.

20 Davies, *Phrenology*, 5.

21 Ray, *Medical Jurisprudence*, 60, 66.

22 Quen, "Isaac Ray," 84.

23 Overholser, "Founding of the Association," 69; Isaac Ray to Robert H. Ives, Jan. 8, 1844, Feb. 12, 1845, Butler Hospital Papers, John Carter Brown Library, Brown University, hereafter cited as BHP.

24 For backgrounds of Butler's founders, see *Biographical Cyclopedia of Representative Men in Rhode Island* (Providence, 1881), 166, 227, 259, and *Representative Men and Old Families of Rhode Island* (Chicago, 1904), 966.

25 "Remarks of the Trustees," *Charter of the Butler Hospital for the Insane: Proceedings under the Same, Reports of the Trustees, etc.* (Providence, 1847), 36-37. See also Luther Bell, "Modern Improvements in the Construction, Ventilation, and Warming of Buildings for the Insane," *American Journal of Insanity*, II (1845), 13-35, which includes Bell's plan for Butler Hospital, and Isaac Ray, "Description of Butler Hospital," *American Journal of Insanity*, V (1848), 1-20.

26 Luther Bell to Robert H. Ives, May 21, Nov. 22, 1844, BHP.

27 Ray, "Description of Butler Hospital," 17.

28 See Bell, "Modern Improvements," 21-30, and Ray, "Description of Butler Hospital," 11-17.

29 Ray, "Description of Butler Hospital," 3-4.

30 *Ibid.*, 7-11.

31 *Ibid.*, 5-6.

32 *Ibid.*, 2, 18.

33 Maine Insane Hospital, *Fifth Annual Report* (Eastport, 1844), 13; Isaac Ray, *Mental Hygiene* (Reprint; New York, 1968), 331; "Remarks of the Trustees," 29.

34 "Remarks of the Trustees," 32,33.

35 Rhode Island General Assembly, *Acts and Resolves*, Jan. 1847, 58.

36 Reprinted in *Providence Journal*, Nov. 5, 1847.

37 *Report of the Board of Trustees of the Butler Hospital for the Insane* (Providence, 1848), 4, 7; *Reports of the Trustees and Superintendent of the Butler Hospital for the Insane* (Providence, 1849), 7. The 1849 report includes the hospital's expenditures and receipts for the first thirteen months of its operation.

38 *Reports*, 1849, 13.

39 *Ibid.*, 14.

40 "Remarks of the Trustees," 29.

41 *Reports*, 1849, 26; *Reports*, 1850, 24.

42 Thomas R. Hazard, *Report on the Poor and Insane in Rhode Island Made to the General Assembly at its January Session, 1851* (Providence, 1851).

43 *Ibid.*, 96.

44 *Reports*, 1855, 25.

45 Ray, *Medical Jurisprudence*, 495; "Legal Relations of the Insane," *Monthly Law Reporter* (Sept. 1850), 3; *Reports*, 1852, 21.

46 *Reports*, 1851, 14-16; Rhode Island General Assembly, *Acts and Resolves*, 1851, 20-26.

47 Hazard, *Report on the Poor and Insane*, 64; *Reports*, 1851, 18.

48 Phillip English Mackey, " 'The Results May be Glorious' — Anti-Gallows Movement in Rhode Island," *Rhode Island History*, XXXIII (1974), 28; *Providence Journal*, June 17, 1854.

49 *Providence Journal*, Feb. 25, 1852; Hazard, *Report on the Poor and Insane*, 64.

50 *Reports*, 1853, 13.

51 *Reports*, 1863, 31.

52 Rothman, *Discovery of the Asylum*, 144-145, 154; Ray, *Mental Hygiene*, 158, 256.

53 *Reports*, 1849, 21; *Reports*, 1858, 17.

54 *Reports*, 1857, 22.

55 *Reports*, 1858, 12-13; Dain, *Concepts of Insanity*, 114; Rothman, *Discovery of the Asylum*, 131-132.

56 *Reports*, 1850, 22.

57 Larry Anthony Rand, "The Know-Nothing Party in Rhode Island," *Rhode Island History*, XXIII (1964), 108.

58 *Reports*, 1850, 11; Ray, "Report on Insanity and Idiocy in Massachusetts," *North American Review*, LXXXII (1856), 87.

59 *Reports*, 1859, 6. Under Rhode Island's strict settlement laws, the most stringent in the nation by some accounts, only residents of a particular city or town were eligible for local relief. Others who did not own land could be "warned out" or removed from a particular jurisdiction. See Margaret Creech, *Three Centuries of Poor Law Administration* (Chicago, 1936), and Joseph Brennan, *Social Conditions in Industrial Rhode Island, 1820-1860* (Washington, 1940).

60 George Wightman, "Annual Report of the Overseer of the Poor," Providence City Council, *City Document No. 39* (Providence, 1869), 2, describes the removal of Providence's 17 pauper insane from Butler to the Vermont Insane Hospital in 1858.

61 John R. Bartlett, *Report on the State Beneficiaries, 1865*, Rhode Island General Assembly, *Acts and Resolves, Public Document* (Appendix) *No. 10*, 1865. Of the 24 Rhode Island patients at Vermont, I have counted the following as being of foreign background: McMullen, McGwin, Gallagher, Morrissey, Kelsey, Dempsey, Charnley, Fanning, Riley, Kavanagh, Kennedy, McGuire. *Ibid.*, 6. At Butler, of 78 state patients, those with foreign surnames were: Devine, McKenna, O'Brien, O'Rourke, O'Mara, Corcoran, O'Neil, Kennedy, Riley and Finney. *Ibid.*, 6-8. It is also interesting to note that Providence, with 30 percent of the state's population in 1865 (one-quarter of these of foreign birth) accounted for 50 percent of the indigent insane at Vermont, but only 22 percent of the public patients at Butler. *Ibid.*, 6-8. See also Edwin Snow, *Census of Rhode Island, 1865*, iii-iv.

62 Ray, *Mental Hygiene*, 163,174.

63 John R. Bartlett, *Report on the State Beneficiaries, 1864*, Rhode Island General Assembly, *Acts and Resolves, Public Document* (Appendix) *No. 2, 1864*, 9, and Bartlett, *Report on the State Beneficiaries, 1866*, Rhode Island General Assembly, *Acts and Resolves, Public Document* (Appendix) *No. 12, 1866*, 7.

64 Overholser, "Founding of the Association," 69; *Reports*, 1873, 5.

65 Quen, "Isaac Ray," 93.

66 Isaac Ray to Dorothea Dix, Feb. 20, 1843, Dorothea Dix Papers, Houghton Library, Harvard University. In Butler Hospital, *Reports*, 1850, 31-32, Ray wrote that "within a few years this description of patients [the foreign born] has greatly increased in all our hospitals, and contributes in no trifling degree to swell the burden of pauperism that has been augmenting with a rapidity that is truly appalling," and endorsed the idea of establishing separate institutions for the incurably insane among the foreign born.

VACCINATION
VS.
SMALL POX!

There is a case of Small Pox on Plane street, and cases of Varioloid on Sheldon, Transit, Friendship, Plane, Broad, Bridgham, Carpenter and Claverick streets, and on Broadway.

Our citizens will see the importance of attending to the vaccination of their children *without delay.*

Vaccination is free to all residents of the city, at the Office of the Board of Health, Market Square,

Every Saturday, from 12 to 1 o'clock P. M.

Physicians and others are requested to give information to the subscriber, of all cases that may come to their knowledge.

EDWIN M. SNOW, M. D.,
Sup't of Health.

Providence, January 24, 1862.

RIHS Library

As early as 1862, Providence residents were urged to have their children vaccinated against smallpox. The antivaccination controversy, however, continued until the turn of the century.

Smallpox Vaccination: A Leap of Faith

*by Joan Retsinas**

In the words of sociologist Robert Merton, one generation's scientists "stand on the shoulders of giants" as they perfect ideas and theories first developed by their predecessors.[1] The study and practice of medicine fits neatly into this model. Knowledge of disease seemingly progresses from indistinct, garbled theory to scientific truth; physicians emerge over time from unprofessional beginnings to a position of respect based on their expertise.

The history of the fight against smallpox seems to reinforce this model of the progression of scientific knowledge, for the chronology of treatment suggests that physicians began in confusion, undertook experimentation, and finally discovered truth. In 1721 Lady Mary Montagu introduced in England the Turkish practice of inoculation with live smallpox matter — a practice popular with people willing to contract a mild case of smallpox to avoid a severe case during an epidemic. Unfortunately, though inoculation gave immunity, it also gave patients the symptoms of smallpox: disfigurement, blindness, and occasionally death. In addition, the inoculated person was contagious. William Jenner in 1799 imaginatively integrated the vogue for inoculation with Devonshire folklore (Devonshire milkmaids did not get smallpox — an immunity attributed to handling cows sick with cowpox). Jenner "tested" his hypothesis that exposure to cowpox protected against smallpox, statistically presented his findings, and earned accolades as well as thirty thousand pounds from a grateful Parliament. Instead of inoculating people with live smallpox germs, Jenner vaccinated them with cowpox. Vaccinated people were immune to smallpox without risking the contagion or symptoms of inoculation. As a result, Jenner won international renown. The Dowager Empress of Russia sent Jenner a ring, named the first vaccinated child "Vaccinoff," and guaranteed the child's education at state expense. Napoleon in 1805 ordered universal vaccination for French troops and — to the surprise of all — he released an English prisoner who was related to Jenner: "Ah, it's Jenner! I can refuse Jenner nothing."[2]

Benjamin Waterhouse, a Harvard professor of medicine, received a sample of Jenner's lymph and distributed it widely. One recipient was Thomas Jefferson, who thereafter preached the wonders of vaccination. Soon a European-trained cadre of physicians practiced vaccination. Public health boards in American cities and towns, besieged by intermittent epidemics (1861, 1871, 1888), used vaccination as a tool against the disease. Health records in Baltimore reveal that up to fifty percent of the population was vaccinated in 1871.[3] In Rhode Island, public health officials such as Dr. Charles Chapin, Superintendent of Health for the City of Providence, and Dr. Edwin Snow, his predecessor, advocated vaccination. Eventually, states passed legislation making vaccination compulsory for children in public schools. The campaign was so successful that by the 1920s smallpox epidemics were viewed as a historical phenomena belonging to the days of "prescientific" medicine when untrained quacks proffered their own interpretations of health and illness. As

*Ms. Retsinas is a doctoral candidate in sociology at Brown University.

for "antivaccinators" — those people who opposed compulsory vaccination laws — public health texts today discount them as misguided obstructionists arguing against science.[4]

These antivaccinators, however, deserve a second look. One way to reassess their role is to question the validity of Robert Merton's analogy of scientific progress. His analogy suggests that Jenner "stood on the shoulders" of Turkish inoculators by perfecting a vaccine that seemed to be so sure a safeguard. Antivaccinators, by contrast, appear as obstructionists — doubters standing in the way of progress.

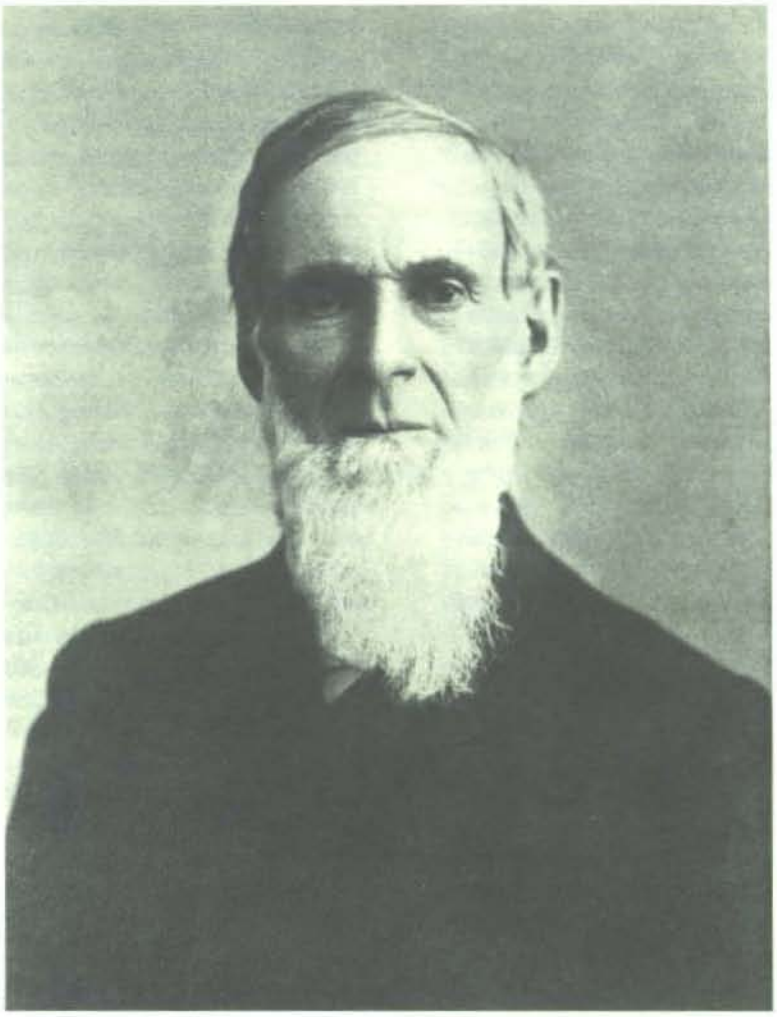
Thomas Kuhn, a historian of science, has challenged the view of scientific progress as linear and evolutionary. For Kuhn, scientists work within a set range of theories, methods, and techniques ("Normal Science"). He calls this limited world perspective a "paradigm" and emphasizes that, throughout history, one generation's scientists have usually worked within the same paradigm. Reality, though, is kaleidoscopic and when anomalies, problems, or puzzles accumulate, scientists — usually younger ones — begin to formulate a different paradigm. According to Kuhn, the transition of scientists from one paradigm to another is a "scientific revolution." He stresses that one paradigm is not necessarily superior than another; in fact, available data may still support the older paradigm. Some scientists, however, make a "leap of faith," hoping that a new perspective will yield answers to unsolved puzzles.[5] In light of Kuhn's notion, antivaccinators can be seen not as quacks or obstructionists but as a group who embraced a new paradigm by making a leap of faith.

In late nineteenth-century America, as state health departments began to legislate and enforce laws making smallpox vaccination compulsory for children entering public schools, antivaccinators debated, questioned, argued, and resisted. Since 1880, England had a vocal Antivaccination Society whose ranks even included members of Parliament. This society published a monthly journal that railed against the vaccination menace. Gradually, English articles, books, and tracts that found their way into American homes helped spawn antivaccination efforts throughout the United States.

In Rhode Island, thanks to a retired toolmaker who dedicated his last years and most of his fortune to opposing vaccination, the campaign was vigorous. Samuel Darling, born in Vermont in 1815, left his family's farm to become an inventor and manufacturer of machine and other tools. As head of the firm of Darling & Swarts in Bangor, Maine, he moved to Providence in 1866 when the firm merged with its rival, Brown & Sharpe. When he retired in 1893 at the age of seventy-eight, Darling had earned considerable respect as a philanthropic, hardworking industrialist.[6]

After his retirement, Darling worked to convince the General Assembly to repeal a one-sentence law passed without opposition in 1881 that mandated vaccination for public school children. The law declared that "no person shall be permitted to attend any public school . . . unless such a person shall furnish to the teacher . . . a certificate of some practicing physician that such person has been properly vaccinated as a protection from smallpox."[7] To persuade Rhode Island legislators that the law should be repealed, Darling financed the publication of antivaccination writings: minutes of the London Anti-Vaccination Society (a monthly journal), antivaccination tracts from English and Canadian writers, and books and reprints of speeches made before the House of Commons urging conscientious objector clauses to England's compulsory law. The Lowell (Massachusetts) Board of Health in 1871 had declared vaccination ineffective in combating the city's smallpox epidemic of that year; twenty-one years later, Darling reprinted the entire board report.[8] In 1894 he subsidized the visit of Jonathan Pickering, a leading British antivaccinator, to Rhode Island. Addressing a joint session of the General Assembly, Pickering urged repeal of the vaccination law. Pleading that vaccination was "the greatest fraud ever perpetrated upon the Human Race," Darling sent each legislator a "japanned tin box from ten to twelve inches square, with locks and handles and filled with books, pamphlets, and leaflets, by the highest authorities, containing overwhelming evidence against vaccination."[9]

Relying on English statistical evidence and the skepticism of some physicians, Darling believed vaccination could kill, maim, and disfigure as in-



Representative Men and Old Families of Rhode Island, Chicago, 1908

Samuel Darling.

sidiously as smallpox. He abhorred the lunacy of mandating a torture that served only to enrich a mercenary medical profession. In exposing the danger of infecting healthy children with the diseased lymph of a cow, Darling saw his mission as educator — he assumed that once legislators knew the facts about vaccination, they would repeal the law. "From conversation with many substantial men upon the subject," he wrote, "I concluded that every intelligent unbiased person would at once condemn vaccination."[10]

Another prominent Rhode Islander shared Darling's cause. Sidney S. Rider was an antiquarian book dealer who for thirty-three years published a series of weekly *Book Notes* in which he liberally sprinkled antivaccination homilies.[11] Rider amassed clippings from Eastern metropolitan newspapers as well as items from Darling's japanned tin boxes. He also corresponded with Samuel Leonard, the mayor of Leicestershire, England, to learn how that valiant town with its 60,000 unvaccinated souls had succeeded in ignoring England's compulsory legislation.[12] Rider agreed with Darling's assessment of vaccination as bestial torture effective only at replenishing medical coffers, yet he added a concern that

would spark less vehement antivaccination sentiments throughout the country — the distrust of state interference in so personal a domain as health.

American antivaccination efforts gained few victories, although men like Rider and Darling did help to slow public health campaigns. In 1903 Minnesota abandoned its compulsory law; in 1911 California repealed its law. Samuel Darling never convinced Rhode Island legislators to repeal the 1881 law, but he came close. In May 1893 a bill to repeal compulsory smallpox vaccination for school children passed the state Senate by a vote of 16 to 9, but it was later defeated by a small majority in the House.[13] The editors of all Rhode Island newspapers by 1895 agreed that the merits of vaccination might justify the technique but that any law fomenting such opposition should be repealed. Even Chapin, a staunch advocate of vaccination and Darling's adversary in the press, agreed with the editors.[14]

The 1881 statute provided no recourse to parents who abhorred vaccination. If they refused to let their children be vaccinated, then theoretically their children would not be allowed to attend school, although school attendance was obligatory by law. An 1896 law stipulated that parents who refused to comply with compulsory vaccination legislation would be fined. Presumably, children of parents wealthy enough to pay the fine would be allowed into the public schools. Rhode Island antivaccinationists would have welcomed an amendment that allowed a parent to furnish, in lieu of a vaccination certificate, some proof of "unfitness for vaccination" to teachers, as Massachusetts had allowed in 1894.[15] One Massachusetts senator, however, "exhibited twenty-five or thirty certificates which he said were issued by 'antivaccinationists,' who advertised to furnish any number of them to anyone."[16]

Darling died in 1896 and with his death the spirited antivaccination campaign gradually waned. The state Board of Health was struggling to cope with other contagious diseases — scarlet fever, typhoid, diptheria, measles, tuberculosis — but miraculously Rhode Island seemed immune to smallpox. As late as 1899, Chapin reported that nobody had died from smallpox in Providence since 1883.[17] One result, of course, was lax enforcement of vaccination. Other than Providence, Rhode Island cities and towns responded slowly and haphazardly to state health edicts. Routinely, the state board sent questionnaires to city and town clerks asking for reports on new sanitary ordinances, the number of people vaccinated, a tabulation of the incidence of disease, and the cooperation of undertakers in reporting deaths. Chapin would reply for Providence with page upon page detailing local ordinances, statistics, results of studies, but other communities would ignore some or all questions, offering cryptic assessments at best.[18] Twenty-three communities in 1899 reported that they did not offer public vaccination; twelve did offer vaccination, but some only to school children. In 1902, the year of a smallpox epidemic, fourteen communities reported that they did not offer free vaccination. Fifteen communities reported free vaccinations that year, but eight municipalities either ignored that question or the entire questionnaire. Amazingly, Central Falls reported that "nothing for the promotion of public health has been done during the year."[19]

The state was poorly equipped to wage a campaign. Newport was the only community with a board of health distinct from its board of aldermen. As late as 1902, West Greenwich employed no health officer. Even those communities that had health officers lacked basic methods of record-keeping. The Tiverton town clerk in 1890 noted, "I think nothing was done about it [free public vaccination] in 1890, but Dr. Yale was employed in 1889, I think." The state had no laboratory until 1888.[20]

Except for Providence, where Chapin had sponsored free public vaccinations steadily throughout his tenure, Rhode Island communities were not prepared for the smallpox epidemic of 1900-1902.[21] In 1900 scattered cases of smallpox appeared, and despite quarantine and isolation measures, an epidemic spread throughout the state, peaking in 1902. Woonsocket, the city worst affected, reported 370 cases, with only 25 deaths. The disease was mild: Providence reported a mortality rate of twelve percent (compared to Boston's fourteen percent). Yet the prevalence of the disease frightened legislators. The City Council of Woonsocket in 1902 passed a resolution "that the delegation from Woonsocket to the State Legislature be instructed to secure, if possible, legislation

in favor of compulsory vaccination in the State of Rhode Island." Woonsocket councilmen, and Dr. Chapin, wanted to make vaccination compulsory for adults as well as children.[22]

"Substitute Bill A,"which provided for compulsory adult vaccination, aroused dormant antivaccination qualms. Legislators in the House of Representatives debated this bill for an hour and a half. At a time when public health departments were bringing down death tolls from cholera and typhoid, Joseph McDonald of Pawtucket cautioned: "The statement that smallpox has disappeared practically is not proof that vaccination is responsible. Sanitary science is more directly responsible. . . . If the city of Woonsocket would spend $30,000 in cleaning the city, more would be done than by vaccination." He cited speculation that the vaccine itself bred a coterie of diseases including "poisonous virus . . . that may disfigure for life." McDonald said he knew "one man with hands and arms all twisted and blind in one eye from vaccination. Out in Warwick a man in perfect health was vaccinated and within fifteen days he died of a most revolting disease." William Morgan of Providence doubted that vaccination would even guard against smallpox: "If vaccination is a preventive, why do so many have smallpox after being vaccinated? . . . No physician will guarantee that smallpox will be prevented."[23]

McDonald also argued against this arbitrary encroachment of government upon individual liberty: "This matter of government compulsion is a tremendous exercise of governmental power. If a man has any rights, they are over his own person, and to compel a man to take poisonous virus into his system that may disfigure him for life is going beyond the rights of Government. I would leave vaccination to each individual." Morgan concurred, objecting to "any law that compels me to strip up my sleeve and be vaccinated with one disease to escape another that is not likely to come. I don't dispute vaccination itself, but I object to the compulsory part. I think it is questionable whether the state has right to insist on inoculating people with disease against their will." Representative Adelard Archambault, a Woonsocket physician, believed that cities and towns, not the state, should decide on vaccination measures. John Ogden reported that his North Providence constituency opposed the bill. The *Providence Journal* noted the "significant fact that two of the remonstrants came from the Rhode Island city [Woonsocket] which has been the most afflicted from smallpox." Finally, by a vote of 24 to 17, the House of Representatives sided with McDonald against the legislation.[24]

Just as legislators divided over the vaccination question, so too did physicians. "Irregulars," those who espoused a distinct theory of treatment (hydrotherapy, allopathy, botanic thomsonism, mesmerism, homeopathy), spurned vaccination by offering their own psychic, chemical, and herbal remedies. Dr. Franz Hartmann's book, *Diseases of Children and Their Homeopathic Treatment,* suggested sulphur, thuja, tartarusstibatus, and arsenic for smallpox. Frank Kraft, another homeopath, recommended malandrinum, while the Hahnemann Society of Homeopathic Physicians also objected to vaccination. Until 1889 a majority of Rhode Island physicians were irregulars, and even Chapin studied under a Providence homeopath after graduating from Brown in 1876.[25]

Regular physicians accepted Jenner's technique. Darling, however, reminded legislators in "Medicine is not a Science" that these regular physicians were the same healers who had once practiced bleeding, sweating, and inoculation. Henry Constable, a British antivaccinator, noted that physicians used to prescribe a decoction of turmeric for jaundice, a decoction of red roses for loss of blood, and scarlet bed curtains for scarlet fever. Antivaccinators hoped legislators eventually would outlaw vaccination as they had outlawed inoculation, the earlier "cure." As Representative McDonald declared, "The history of medical science shows a constant change. What is accepted in one period is not accepted in another."[26]

Nineteenth-century Americans took the pronouncements of these medical regulars with a judicious grain of salt, often making physicians the butt of their jokes. In the 1880s the competitive array of healers and cures compelled patients to temper prescriptions with common sense and good humor. One anecdote recounts the tale of a French woman, ninety-two years old, who willed the contents of her medicine cabinet to her physician; opening the cabinet, the doctor discovered unopened bottles and vials of all the medicines he had prescribed — the secret to her longevity.[27] Darling noted in one tract that "Oliver Wendell

Holmes, Sr., declared mankind had been drugged to death and that the world would be better off if the contents of every apothecary shop were emptied into the sea, though the consequences to the fishes would be lamentable."

Darling, Rider, and McDonald also recognized that vaccinating physicians had a vested financial interest in the technique. Tract after tract detailed yearly fees pocketed by public vaccinators, not to mention the fees collected by private physicians.[28] "Doctors are paid to vaccinate," wrote Henry Constable, "paid again a bonus for doing it well, and paid again for attending to the sickness produced by this blood poisoning." Antivaccinators reminded readers that Jenner collected $150,000 from a grateful Parliament, and that America's Benjamin Waterhouse had asked the Massachusetts legislature to reimburse his services.[29]

Even the scientific community of the late nineteenth-century did not unanimously accept the logic of vaccination. The leading academic antivaccinator was Dr. Charles Creighton, at one time Demonstrator of Anatomy at Cambridge. Creighton had supported vaccination until 1876, when Encyclopedia Britannica asked him to write a chapter on the subject. He concluded that William Jenner was a charlatan. In *Jenner and Vaccination: A Strange Chapter in Medical History*, Creighton attempted to expose Jenner's quackery.[30] The ninth edition of the Britannica included Creighton's assessment that vaccination would not prevent smallpox.

Ordinary citizens also shared Samuel Darling's distrust. In 1903, speaking before the Providence Medical Society, Donald Churchill warned that "vaccination was fought almost as fiercely as inoculation and this opposition to a certain extent exists today."[31] Skeptical legislators could look to reputable, esteemed men who joined the ranks of the antivaccinators — men like George Bernard Shaw and Frederick Douglass.[32]

Indeed, by using Kuhn's paradigm thesis, it is clear that legislators who finally supported compulsory vaccination were not necessarily enlightened souls who had glimpsed the truth of science. Rather, these legislators were actually taking a leap of faith toward an empirical world view. Even a century after Jenner's *Inquiry*, no theoretical explanation could conclusively buttress the argument that vaccination was the only means to rid the world of smallpox.

In 1799 Jenner himself had offered no theoretical explanation for his hypothesis that exposure to cowpox would protect humans against smallpox. Nor could Jenner's medical peers explain why vaccination with cow lymph (or inoculation with live smallpox germs) protected humans against the disease. Creighton described this medical assent to a mystery: "The profession were unwilling to admit that there was any real mystery. They reasoned: we are practical men; it is not our affair to explain how or why cowpox wards off smallpox; but we know from our experiments that it does so, and that is enough for us."[33]

The germ theory of Pasteur and Koch (1876) lent a scientific basis to vaccination, yet many physicians who espoused vaccination distrusted "exuberant imaginations . . . about organic germs."[34] Germ theory, more "wonderful than the visions of Eastern fable," clashed with dominant theories of diseases as miasms stemming from atmospheric conditions. Moreover, vaccinating physicians did not cite Pasteur to support their case. Physicians were reluctant even to pasteurize milk. At the 1897 gathering of the Massachusetts Association of Boards of Health, only two doctors spoke up for pasteurization — William Sedgwick of Massachusetts and Chapin of Rhode Island.[35]

Empirical evidence by itself was not conclusive. Proponents and opponents of vaccination marshalled statistics on mortality and morbidity. On the proponents' side, Chapin told members of the General Assembly: "In the Franco-Prussian war there were 316 deaths from smallpox in the well-vaccinated German army, and 23,469 in the poorly-vaccinated French army." Darling countered that mortality differentials stemmed from different conditions (fresh air for the Germans, crowded camps for the French). Vaccination advocates pointed to declining smallpox mortality figures from London hospitals. The opponents argued that many who had contracted smallpox had in fact been vaccinated. A report on Highgate Hospital in 1871 noted: "Of the 950 cases of smallpox, 870, or 91.5% have been vaccinated." As for death tolls of unvaccinated people caused by smallpox, antivaccinators argued that either examining physicians had overlooked vaccination marks on severely disfigured patients or that unscrupulous

physicians had misreported smallpox deaths as erypseleas, a disease with similar symptoms. An English statistician, Alfred Wallace, concluded that vaccination had actually increased the incidence of smallpox.[36]

Evidence of the time linked vaccination with tetanus, lockjaw, cancer, syphilis, erypseleas, and leprosy.[37] McDonald told Rhode Island legislators that "cancer is increasing as vaccination is more prevalent. A little girl in Woonsocket was vaccinated last summer and got lockjaw, and I made up my mind that none of my children should be vaccinated. Regular epidemics of lockjaw follow vaccination."[38] One writer even blamed tooth decay on vaccination, noting that "if vaccination and the beginning of second teeth are contemporaneous, deformity of the teeth may be the birth mark inflicted by vaccination."[39]

Antivaccinators also declared that Jenner's wizardry had bred a new disease, *variolus vaccinae*, and that many people died from the vaccine itself. In fact, amid conflicting studies and reports, men like McDonald had good reasons not to endorse compulsory vaccination for adults. One editorial, included in Sidney Rider's collection of newspaper clippings, echoed the reservations of judicious legislators: "If there were no cases of injurious results following vaccination the authorities might regard parental objection to that method of prevention from smallpox as emanating from ignorance. But as these injurious results are quite frequent, and often spring from causes which medical authorities cannot guard against, the power of school boards to close public schools to pupils whose parents object to vaccination should be exercised with caution."[40]

Discussing the connection between vaccination and an array of illnesses, some writers blamed the idiocy of injecting "bovine matter" into humans. The anonymous author of a tract that Darling reprinted upheld the cause of "people who, even if they are descended from gorillas, refuse to have their natures mixed again with the disease of beasts."[41] Before vaccination, physicians had concocted remedies from animal matter, but they applied these remedies to sick people. Vaccination proponents sought to inject diseased pus of a cow into healthy people — an irrational proposal to many Americans.

Empirical evidence offered by both sides was less than conclusive even by scientific standards of the time. The rudimentary typology of disease, the haphazard reporting of smallpox cases, and the low caliber of physicians made the evaluation of "scientific" data a formidable task. When Chapin investigated the 157 Providence cases of smallpox reported in 1902, he found only 48 genuine instances of the disease. Physicians had mistaken varicella (30 cases), eczema (18 cases), acne (14), vaccinia (3), insect bites (2), and a collection of ailments ranging from German measles to poison ivy for smallpox.[42] Such poor diagnoses cast doubt on data routinely gathered by boards of health.

The critical test for empirical evidence was the severity and frequency of epidemics. Many people, however, were reluctant to credit changes in the frequency of the disease to vaccination. Though smallpox epidemics occurred throughout recorded history, no one could conclusively predict when and why an epidemic would occur. Vaccination proponents could not claim that vaccination had eradicated smallpox — the United States suffered epidemics in 1871 and 1888. Records suggested that even vaccinated people did not escape smallpox. In England, antivaccinators either agreed with Alfred Marshall that vaccination had exacerbated smallpox or they conceded that the incidence of smallpox had declined, but they refused to credit this decline to vaccination. Dr. Farr, an English physician, noted in an article on "Vital Statistics" that "smallpox attained its maximum after inoculation was introduced; this disease began to grow less fatal before vaccination was discovered; indicating, together with the diminution in fever, the general improvement in health then taking place."[43]

Modern scientists can explain this conflicting data that accounts for the reluctance of many nineteenth-century Americans to make a leap of faith. Unsanitary methods may indeed have killed people who had been vaccinated. Outbreaks of cancer, leprosy, and syphilis were coincidental to the occurrence of smallpox — assuming diagnoses were correct in the first place. An alarming number of vaccinated Americans did contract smallpox; but where Darling and his allies blamed vaccination, modern scientists blame improper lymph. As early as 1889, Edgar Crookschank, an American writer, believed that farmers might

have diagnosed engorged udders as cowpox, and that lymph from these cows could not guard against smallpox.[44] When state health departments began to supervise lymph production and licensed physicians began to administer the vaccinations, the number of "vaccination tragedies" diminished.

Neither a statistican nor a scientist, Darling disapproved of malandrinum and sulfur as much as he did vaccination. He was a toolmaker who shared a prevalent skepticism of medical science, especially since this science emanated from a competitive array of healers, all of whom stood to profit from their sundry cures. If Darling and other antivaccinators had simply preached that vaccination was another medical idiocy, their campaign would not represent a paradigmatic revolution. Darling, however, was advocating another solution to disease — sanitation.

Historians point to a golden age of sanitation, when people at last recognized that contaminated food, dirty streets, crowded houses, and polluted water could make people ill, and that these could be eliminated as breeding grounds of disease. Doctors Snow and Chapin were sanitarians who issued innumerable reports to the Providence city council on "Nuisance of Soap Works," "The Practice of Converting Wells into Cesspools," "Removing Night Soil," "Adulteration of Milk," and "Swill and House Offal."[45] By 1900, though, Chapin was deserting the ranks of orthodox sanitarians. Ahead of his peers, Chapin recognized that beyond minimum levels of water, food, and air purity, sanitary improvements would not improve health. He looked for defective plumbing, filthy vaults, and garbage-strewn yards in the homes of patients, and he found no significant correlation between sanitary conditions and the presence of scarlet fever, diptheria and typhoid fever. While health departments throughout the nation were battling disease with quarantine, isolation, and fumigation ordinances, Chapin gradually relaxed such measures in Providence. He recognized that germs, not filth, caused disease, and that sanitary measures improved municipal comfort more than health.

Chapin, however, was "all but alone among sanitarians before 1900 in believing that general filthy conditions had no causative relation to disease." Sanitarians credited improved health statistics with improved sanitation, and even enlightened people assumed that smallpox would respond like Asiatic cholera, typhoid, and diptheria to sanitary measures.[46] Darling was a sanitarian who saw vaccination and sanitation as competitive techniques. He feared that enthusiasm over vaccination would divert public health officials from effective disease prevention. While Chapin continued to provide regular and free public vaccination clinics, Darling told the General Assembly that "smallpox is an easy disease to cure by sanitary treatment."[47]

Sanitarians, moreover, feared that people eager to embrace this safe, sure, prophylaxis would lapse into "the sloth and carelessness to which ordinary humanity is prone. The practice of vaccination is now regarded by many of the foremost sanitarians of the world as an irrational attempt to beat outraged nature — a futile effort to avoid a zymotic disease without getting rid of the conditions of uncleanliness out of which it springs, and by which it is propagated."[48] As a result, sanitarians supported government regulation of streets, cesspools, housing, water, and food. Even libertarians conceded that government could dictate minimal levels of cleanliness to individual citizens. The argument for vaccination carried no such force, for if vaccination truly immunized against smallpox, then those protected would not need to fear contagion from unvaccinated neighbors. As regular physicians preached their "heroics" and irregulars preached their chemicals, sanitarians proposed an enlightened alternative: "When the medical profession of today get through with their petty squabbles and jealousies and their silly speculations with the theoretical microbes of diptheria, phthisis, cholera, etc., it is to be hoped they will turn their attention to the positive microbes of bad diet, bad ventilation, bad homes, and bad habits which invite disease and shorten human life."[49]

After 1900, however, sanitarians became less fearful of vaccination efforts. Perhaps because they recognized that health departments were committed to housing, food, and water regulation, or because they recognized the merits of vaccination, some antivaccinators were making the leap of faith into the ranks led by Chapin. Those who had formerly argued that "cleanliness is the only natural hence scientific protection from filth dis-

RIHS Library

Dr. Charles V. Chapin.

ease" came to accept a compromise explanation for smallpox, one that reconciled cleanliness with vaccination. Smallpox, they conceded, might begin with a "germ," but that germ flourished in filth. As Dr. Friedrich, head of Cleveland's Department of Health, explained: "Smallpox . . . is a filth disease and is spread by a definite microbe that flourishes in unsanitary places."[50] Dr. Friedrich was wrong, but his logic reassured sanitarians that public health departments, even while they waged vaccination campaigns, would continue to stress municipal cleanliness.

While Darling and his sanitarian allies delivered antivaccination speeches and wrote countless pamphlets to communicate their point of view, their campaign influenced many people who were neither committed to heroic medicine nor to sanitary science. Some saw the issue of vaccination as a medical problem with important political overtones. Representative Morgan, for instance, ob-

jected not to vaccination but to the compulsory legislation that limited freedom of choice. Similarly, Representative Archambault believed compulsory vaccination meant state interference in a local concern. One newspaper editor suggested that state control over lymph preparation hinted of socialism (but the editor endorsed compulsory vaccination nonetheless).

For these men, as for others, compulsion raised the specter of a threat to liberty, a threat to a society they cherished. Although immigration, industrialization, and urbanization had changed the eighteenth-century village and town, many Americans — especially older Americans, like Darling, who had been reared on farms — retained a village ethos. Like their forebears, they believed in cooperation, fairness, education and moral responsibility; they distrusted large monopolistic corporations, foreign-speaking immigrants who worked in impersonal factories, and the rapidly emerging cadre of medical experts who claimed to understand health more than ordinary citizens. Village Americans did not want government dictating to them. Sidney Rider succinctly expressed this attitude when he wrote that "legislation has produced more misery, both in England and in the United States, than all the other causes of misery combined." He perceived "the greatest danger to the people lies not in themselves, but in those to whom they have delegated the power of legislation."[51]

Until 1878 local health boards in Rhode Island functioned autonomously, without state direction; until 1881 these boards used education, not compulsion, to encourage vaccination. Advocates and opponents alike hoped publicity would aid their cause. In 1859 even Edwin Snow opposed compulsory vaccination, preferring to appeal to people's "good sense." Antivaccinators were not seeking to outlaw vaccination, but they were determined to outlaw its compulsion. Frederick Douglass observed: "I am with you in your opposition to compulsory vaccination . . . . I am for the largest liberty of thought and conduct this side of crime. I am no more in favor of such power when wielded by a majority than when by an individual."[52]

Education versus coercion. Sanitation versus vaccination. Samuel Darling versus Charles Chapin. In the 1890s, the two paradigms clashed. Chapin saw men set in a bureaucratic society dependent upon experts for advice and direction. Physicians were not a motley crew of competing healers but professionals offering expertise; government regulations, however they might impinge upon individual liberties, enhanced the larger public good. Chapin dismissed Darling's conception of independent men regulating their lives and their health without expertise or governmental direction. Darling, in turn, dismissed Chapin's technocratic society, with its pretensions of medical expertise and its bureaucrats "hoodwinked by doctorcraft."

Government might presume to dictate to people, but it acted with the guidance of trained helpers. When Darling asked Mayor Doyle of Providence why he believed in vaccination, Doyle replied that he "had perfect confidence in Dr. Snow." Medicine, once the butt of Dr. Oliver Wendell Holmes's humor, became serious and respectable. Physicians who had been formerly divided into competitive camps of regulars and irregulars regrouped into accredited licensed practitioners and the nonaccredited, illegal "quacks." Compulsory legislation in most states required that licensed, certified or registered physicians sign vaccination certificates or certificates showing that a child was "unfit" for vaccination. Rhode Island's 1881 law stipulated that "practicing" physicians had to vaccinate school children; by 1896, "practicing" had been changed to "licensed." Irregulars rebelled against this government interference. Compulsory vaccination alone might not have unseated the assortment of irregulars, but it gained acceptance at the same time as licensing and registration requirements did. Thirty states by 1898 required physicians to pass qualifying examinations, nine states (including Rhode Island) accepted diplomas from certain schools in place of an examination, six states required only a diploma, and five states had no restrictions.[53]

Local health boards began as citizen boards designed to augment town councils. By 1885 medical professionals sat on those boards.[54] The transition of authority, as citizens yielded to "experts," angered antivaccinators. Samuel Darling and Sidney Rider argued against arbitrary governmental

edicts that made the pretensions of medicine into law, but their protests could not stop the rising tide of reliance on professionalism.

Indeed, the antivaccinators were simply out of place in the twentieth century. They had been reared in an era of sanitary reform when rational men had extolled cleanliness as the modern successor to witchcraft, priestcraft and doctorcraft. The antivaccinators by 1900 were old men clinging desperately to old ideas. The new paradigm brought in younger men schooled in germ theory and reared in a bureaucratic society that functioned under the aegis of governmental regulations. Unsurprisingly, the new professionals thought the antivaccinationists were nothing more than misguided quacks.

1 Robert Merton, "Science and Democratic Social Structure," *Social Theory and Social Structure* (New York, 1968), 612.

2 William Jenner, "Inquiry into the Causes and Effects of the Variolae Vaccine in Cow-Pock," 1799; Harry Wain, *A History of Preventive Medicine* (Springfield, Ill., 1970), 196.

3 Lloyd Hawes, *Benjamin Waterhouse, M.D.* (Boston, 1975), 41; William Travis Howard, *Public Health Administration and the Natural History of Disease in Baltimore, Maryland 1797-1920* (Washington, 1924), 56.

4 Wain, *History of Preventive Medicine*, 193; George Rosen, *History of Public Health* (New York, 1958), 183-190; James H. Cassedy, *Charles V. Chapin and the Public Health Movement* (Cambridge, 1962), 80.

5 Thomas Kuhn, *The Structure of Scientific Revolutions* (Chicago, 1970).

6 "Samuel Darling," *Providence: Its Life and Industries*, n.p., n.d., one page, RIHS Library; *Providence Journal*, Oct. 13, 1896.

7 *Rhode Island Acts and Resolves*, January-May 1881 (Providence, 1881), 127.

8 "Our experience in dealing with the present epidemic compels us to place isolation before vaccination. The latter has not seemed to afford that protection which has usually been ascribed to it. At particular stages of the epidemic this agency did not arrest the progress of the disease as was expected. Neither in individual cases has it prevented persons, apparently well-vaccinated, from having a violent, and in several instances, a fatal attack of the smallpox." Lowell Board of Health and of Consulting Physicians, *Smallpox in Lowell*, as accepted by the City Council, December 12, 1871 (Providence, 1892), 13, Rider Collection, John Hay Library, Brown University.

9 Jonathan Pickering, *An Address before the Judiciary Committee of the Senate in the State House*, April 20, 1894 (Providence, 1894); Samuel Darling, *Vaccination a Gigantic Crime, The Greatest Fraud ever Perpetrated upon the Human Race and Preposterous Beyond Description* (Providence, 1896), 1; Darling to the Honorable Members of the General Assembly, n.d., Rider Coll.

10 Darling to the Honorable Members of the General Assembly, n.d., Rider Coll.

11 *Book Notes*, volumes I through XXXII, contain references to antivaccination concerns. See specifically, IV, 70; XVII, 164; XVIII, 93, 188; XIX, 89; XX, 84, 126; XXVIII, 20, 164, 189; XXIX, 15; XXX, 63, 107; XXXII, 108.

12 Leonard to Rider, May 10, 1901, Rider Coll.

13 Benjamin White, *Smallpox and Vaccination* (Cambridge, 1925), 69-71; Darling to the Honorable Members of the General Assembly, n.d., Rider Coll.; *Providence Journal*, Oct. 13, 1896.

14 Darling named the editors of twenty-five Rhode Island newspapers and cited an interview between a reporter from one newspaper, *The News*, and Dr. Chapin on the question of compulsory legislation, when Dr. Chapin declared, "I shall never advocate its repeal myself but I do think that after all it is the best thing that could happen. So long as the law remains on the statute book this agitation will be persisted in and that is apt to alienate the people from their convictions that vaccination is a good thing." Darling, *Vaccination*, 2.

15 Rhode Island General Laws, 1896, Chapter 65, Section 14; Massachusetts Statutes of 1894, Chapter 515, Section 2. Rhode Island did not adopt this unfitness clause until 1915. Public Laws of Rhode Island, January 1915, Chapter 1201.

16 *Boston Herald*, Mar. 11, 1902.

17 Gardner Swarts, Secretary, *Annual Report of the Board of Health of Rhode Island*, 1899, 108. In tabulating "Prevalence of 12 Important Acute Diseases, 1884 to 1888," the Board of Health did not include smallpox. Charles Fisher, Secretary, *Annual Report of the Board of Health*, 1888, 12-21.

18 In 1888 Charlestown reported "no location in town particularly unhealthy; no nuisances dangerous to the public health within my knowledge." Fisher, *Annual Report of the Board of Health*, 1888, 105. In 1889 East Greenwich reported a "usual amount of general sickness during the past year." Fisher, *Annual Report of the Board of Health*, 1889, 27.

19 Fisher, *Annual Report of the Board of Health*, 1889, 43-84; Swarts, *Annual Report of the Board of Health*, 1902, 11-50; *Central Falls Report*, 21.

20 Fisher, *Annual Report of the State Board of Health*, 1890, 63. Established in City Hall and financed through Gardner Swarts's own backing, the Providence Health Department's Bacteriological Laboratory was the first such laboratory in the United States. Cassedy, *Charles Chapin*, 55.

21 Dr. Chapin tabulated the total number of persons vaccinated yearly in Providence since 1856. Swarts, *Annual Report of the Board of Health*, 1901, 76.

22 Swarts, *Annual Report of the Board of Health*, 1902, 247; Cassedy, *Chapin*, 63.

23 "Substitute Bill A," Rider Coll.; *Providence Journal*, Apr. 4, 1902.

24 *Providence Journal*, Apr. 4, 1902.

25 Howard Frumkin, *Government of Health: The Formation of the Rhode Island State Board of Health* (Providence, 1977), 29-30; Charles Hempel, ed. and trans., *Dr. Franz Hartmann's Diseases of Children and Their Homeopathic Treatment* (New York, 1853), 439-452; Frank Kraft, "Vaccination Vagaries," *The Medical Advance*, XXIII (July 1889), 36-39; Darling, *Vaccination*, 9. Frumkin defines regular physicians as those who belonged to the Medical Society. Frumkin, *Government of Health*, 26.

26 Darling, *Vaccination*, 8-15; Henry Strickland Constable, *Extracts from Our Medicine Men and Fashions of the Day in Medicine and Science: Vaccination and Vivisection (Providence*, 1892), 23; *Providence Journal*, Apr. 4, 1902.

27 Constable, *Extracts*, 4; Darling, *Vaccination*, 44.

28 Constable calculated that from 1841 to 1871 public vaccinators in England had been paid over one million pounds from set rates. Furthermore, he calculated that if vaccination techniques were devised for the eight other zymotic diseases, vaccinators would profit more. Constable, *Extracts*, 8. Darling wrote that in a smallpox panic at Eaton, England, a single doctor pocketed two thousand dollars for vaccinating 800 students. Darling, *Vaccination*, 8.

29 Constable, *Extracts*, 4; Darling, *Vaccination*, 12; J. W. Courtney, *Benjamin Waterhouse, M.D.: American Pioneer* (Geneva, 1926), 7.

30 Charles Creighton, *Jenner and Vaccination: A Strange Chapter in Medical History* (Providence, 1892); Darling, *Vaccination*, 16.

31 Donald Churchill, "History of Smallpox in Rhode Island," *Providence Medical Journal*, VIII (1902), 135.

32 Speaking before the Sixth Annual Conference of the Irish Antivaccination League, George Bernard Shaw declared that "the methods of inoculating children with casual dirt moistened with an unidentified pathogenic substance obtained from calves, [proves that] vaccination is really nothing short of attempted murder." Remarks originally reported in *The British Medical Journal* (1911), 5-13, cited in Hawes, *Benjamin Waterhouse*, 50. For Douglass's views see "Excerpt from Letter to Prof. J. Dobson, M.D.," *Testimonies Against the Vaccination Fiend* (Providence, 1892), 31.

33 Creighton, *Jenner and Vaccination*, 11.

34 Quoted in Howard Kramer, "The Germ Theory and the Early Public Health Program in the United States," *Bulletin of the History of Medicine*, XXII (1948), 234.

35 *Scientific American*, XXIV (1871), quoted in Kramer, "Germ Theory," 234; Barbara Rosenkrantz, *Public Health and the State: Changing Views in Massachusetts, 1842-1936* (Cambridge, 1972), 108.

36 Charles Chapin, Gardner Swarts, and William H. Palmer to the Honorable Members of the General Assembly, n.d., Rider Coll.; Darling, *Vaccination*, 6; Alexander Ross, *Truths About Vaccination* (Providence, 1892), 18.; J. W. Hodge, "Why Doctors Who Vaccinate Should Abandon the Practice," *Medical Advance*, XL (1902), 89.

37 Ross dubbed compulsory vaccination "Disease by Law" and noted: "Between the years 1850 and 1880 (in Canada) deaths from syphilis increased 127 percent; from blood poisoning 100 percent; from cancer 70 percent; from tabes mesenterica 29 percent; from skin diseases 109 percent; and from bronchitis 144 percent." Ross, *Truths*, 36.

38 *Providence Journal*, Apr. 4, 1902.

39 *Terrible Results of Vaccination by Eminent Authors* (Providence, 1892), 37.

40 Undated newspaper clipping, Rider Coll.

41 *Terrible Results*, 21.

42 Swarts, *Annual Report of the Board of Health*, 1902, 53-89.

43 *Alfred Milnes, Vaccination an Error — Its Compulsion a Wrong*, (n.p., n.d.), 12, Rider Coll.

44 Howard, *Public Health*, 60; Edgar March Crookschank, *History and Pathology of Vaccination* (Philadelphia, 1889), 196.

45 Reports to the City Council of Providence, RIHS Library; Cassedy, *Chapin*, 94.

46 Cassedy, *Chapin*, 94. Charles Rosenberg details the transformation in attitudes toward disease from 1832 to 1855, when city governments recognized the need for sanitary reform. Charles E. Rosenberg, *The Cholera Years* (Chicago and London, 1962).

47 Darling to the Honorable Members of the General Assembly, n.d., Rider Coll. Darling was "profoundly impressed after years of searching investigation, with the terrible truth that drugs have not only multiplied diseases but increased their fatality and killed more than war, pestilence, and famine combined." Darling, *Vaccination*, 18.

48 Hodge, "Why Doctors Who Vaccinate," *Medical Advance*, XL, 92.

49 Ross, *Truths*, 33.

50 *Providence Journal*, Apr. 18, 1902.

51 *The Republican*, n.d., newspaper clipping, Rider Coll.; Sidney Rider, *Book Notes*, IV (1887), 70. Robert Wiebe points out that the United States in the 1880s was still a village society. Wiebe, *The Search for Order* (New York, 1967).

52 Edwin Snow, "Report on the Smallpox in the City of Providence from January to June 1859," *City Document No. 4*, 1859-1860, 20-21, quoted in Frumkin, *Government of Health*, 62; Douglass, "Excerpt from Letter," *Testimonies*, 31; Howard, *Public Health*, 96.

53 Darling to Honorable Members of the General Assembly, n.d., Rider Coll.; Abbott, *Past and Present Condition of Public Hygiene and State Medicine in the United States*.

54 Abbott, *Past and Present*, 78.

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A Gift for the Future

The Board of Trustees of the Rhode Island Historical Society would like you to consider making the Society a beneficiary when you are preparing your will. Such a bequest would help insure the Society's continuing efforts to collect, preserve, protect and interpret Rhode Island's unique heritage. A bequest to the Society is truly a gift to future generations of Rhode Islanders so that they may share in the Society's services and programs.

Should you desire to include the Society as a beneficiary of an unrestricted bequest when preparing your will, the following wording is suggested:

I give and bequeath to The Rhode Island Historical Society in Providence in the State of Rhode Island and Providence Plantations,.....dollars ($), for its general uses and purposes.

The Director of the Society will be happy to discuss this matter with you. Gifts to the Society are deductible from federal estate and income taxes.

The Rhode Island Historical Society
52 Power Street
Providence, Rhode Island 02906
(401) 331-8575