government of health:

The Formation of the Rhode Island State Board of Health

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GOVERNMENT OF HEALTH:

The Formation of the Rhode Island State Board of Health

by

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STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS • DEPARTMENT OF HEALTH

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INTRODUCTION

The article here published is recommended alike to the student, the health professional and to those interested in particular phases of the history of this state.

Mr. Frumkin traces some major currents in the social, economic, intellectual and medical life of 19th century Rhode Island, and relates them to the persons and events which brought about the first organized statewide concern with public health matters. In doing so, he captures the essence of a by-gone time with felicity and trenchancy.

The Rhode Island Department of Health is pleased to have the opportunity to give this account the wider audience which it merits.

Joseph E. Cannon, M.D.
Director

FOREWORD

This thesis, from topic selection to final typing, is the product of one semester's work. This is unusual, as most undergraduate theses at Brown are written over the course of a year. The most serious penalty of my compressed timetable was the impossibility of detailed consultation with my advisor, Professor A. Hunter Dupree. Nevertheless, Professor Dupree's door was always open, and I have benefited tremendously from many conversations with him. If I have not adopted all of his suggestions, it is not for lack of serious consideration and respect. The responsibility for any errors and omissions is, of course, mine alone.

As something of a dilettante in historian's clothing, I have claimed a fair amount of license in extrapolating from my research to broad generalizations and conclusions. In doing so, I have been less cautious and restrained than formal standards might demand. This is especially apparent in chapters seven, eight, and nine. Professor Dupree's understanding and support of this approach have been gratifying; I owe to it much of the educational value of the thesis.

I am also grateful to two other faculty members who promptly and graciously agreed to act as readers, Professor Albert Wessen and Doctor Alex Burgess.

Finally, kudos to the Rhode Island Medical Society for adopting the following resolution in 1875:

> Resolved, That among the most frequent causes of ill health among pupils while attending school, we must recognize the following:-- Attending balls and parties, sitting up late nights, eating improper food, drinking tea and coffee, and especially reading works of fiction.

Were it not for my assiduous and chronic overindulgence in all of the above, this thesis would not be what it is.

CHAPTER ONE

PEOPLE, FACTORIES, AND TOWNS

On February 19, 1878, a member of Rhode Island's House Committee on State Charities and Corrections rose before the House to move the establishment of a State Board of Health. He explained at length the multifarious functions of the proposed Board, and outlined an administrative structure. The usually contentious House grumbled only about the salary of the Board's Secretary, and referred the bill to its Finance Committee. When a slightly amended version reemerged for a vote on April 8, it was promptly passed. The Senate considered the Bill three days later, also amended it slightly, and passed it without delay. On April 12, Governor Van Zandt appointed the Board's first six members.[1]

Obviously, significant historical preludes had divested the issue of all controversy by the time of the General Assembly's action. Perhaps the formation of the Board of Health had become inevitable as early as 1790, when Samuel Slater, a twenty-one-year-old immigrant from Derbyshire, England, accepted an invitation from Moses Brown and left New York for Pawtucket. Equipped with a keen memory and with eight years' experience at Richard Arkwright's factory in England, the young Slater took less than a year to build the spinning machinery for the nation's first cotton mill.[2] Or perhaps the real genesis of the Board dates even further back, back twelve thousand years before Slater's lifetime, when the Narragansett Bay sank into the water, and the last retreating glacial mass gouged the

shorelines and deepened the valleys into what would one day be an industrial Garden of Eden. The origins are obscure.

But whatever the predilictions of the land and the preoccupations of the people, Slater's Mill marked the opening of a new era for Rhode Island. Four years after its construction, Colonel Job Greene and associates followed suit, building the state's second cotton mill in Centreville, in the town of Warwick.[3] By 1812, the state could boast no fewer than thirty-eight cotton mills, in Warwick, Coventry, North Providence, Cranston, and eight other towns.[4] The face of Rhode Island was changing; as early as 1795, one observer dutifully recorded that

> at North Providence, on the Pawtucket, were at this time three anchor forges, one slitting-mill, three snuff-mills, two nail-cutting machines, one tanning-mill, one grist-mill, one cotton factory, one clothiers' works, and three fulling-mills, all carried by water. 5

Alexander Hamilton had considered some of these economic transformations in his 1791 Report on Manufactures. In it, he wrote,

> the objections to the pursuit of manufactures in the United States represent an impracticability of success arising from three causes; scarcity of hands, dearness of labor, want of capital. 6

Hamilton, always the practical man, went on to offer a solution inspired by the British cotton industry: the employment of women and children at low wages. In fact, up to half the labor force in Rhode Island's early mills was under twelve years of age.[7] Subsequent immigration to the state expanded the labor force even further.

Nor did Hamilton's other stumbling block, scarce capital, prove insurmountable. A prosperous East India trade had operated out of Rhode Island since 1787, and continued to be a source of accumulated capital until 1841.[8] Institutional changes soon facilitated the use of this capital; between 1817 and 1819, for example, the number of banks in the state rose from seventeen to thirty.[9] As a result, a growing moneyed class was able to exert political and economic leverage toward further industrial development in the area. During the commercial debacle which followed the War of 1812, local mill owners were sufficiently numerous and unified to send an agent to Washington to lobby for a protective import tariff. The lobbyist represented fully a third of the nation's cotton production: 99 Rhode Island mills, as well as 57 in Massachusetts and 14 in Connecticut.[10] By 1820, Rhode Island claimed a quarter of the nation's spindles, and the number of mills increased steadily despite wild economic fluctuations: 110 in 1826, 139 in 1829, 209 in 1840.[11]

Although cotton was Rhode Island's principal industry, it was by no means the only one. Second in importance was woolen production. In 1812, Thomas R. Williams of Newport invented a power loom for weaving saddle girths and other webbing; by 1815, several were in operation in Peacedale.[12] Also in 1812, the Providence Woolen Manufacturing Company opened the nation's largest woolen mill. It was powered by the first high pressure steam engine in Rhode Island, a thirty

horsepower colossus custom-made in Philadelphia.[13] In 1810, the state had 12 woolen mills. By 1832, there were 19, with 400 employees; by 1840, 41, with 1,000 employees; by 1850, 45, with 1,700 employees; by 1860, 57, with 4,200 employees; by 1870, 76, with 7,900 employees; and by 1880, 61, with 11,400 employees.[14] The jewelry industry took hold in Rhode Island during the first two decades of the nineteenth century; from 1850 on, between 50 and 100 establishments operated in the state, mostly in Providence.[15] In 1831, the Gorham Manufacturing Company initiated a substantial silverware industry, also centered in Providence.[16] The first half of the century saw speculation and investment in such diverse products and processes as hats, linen, rubber goods, chemicals, brewing, and sugar refining.[17]

As Rhode Island industry diversified, it also developed innovative ways of concentrating and harnessing energy. We can return to cotton as an example. Although Cartwright had invented a power loom in 1784, it was not used extensively on either side of the ocean for some time. But in 1816, William Gilmour, an immigrant from Glasgow, came to North Providence and there built twelve power looms for the Lymansville mill.[18] By mid-century, this had evolved into a marked tendency to consolidate small mills into larger, more productive ones. By 1850, the number of cotton mills in the state had dropped to 158; in 1860, to 135; in 1870, to 139; in 1880, to 94. During the same period, however, the number of employees in these

establishments rose sharply. In 1860, there were 12,000; in 1870, 17,000; and in 1880, 21,500.[19]

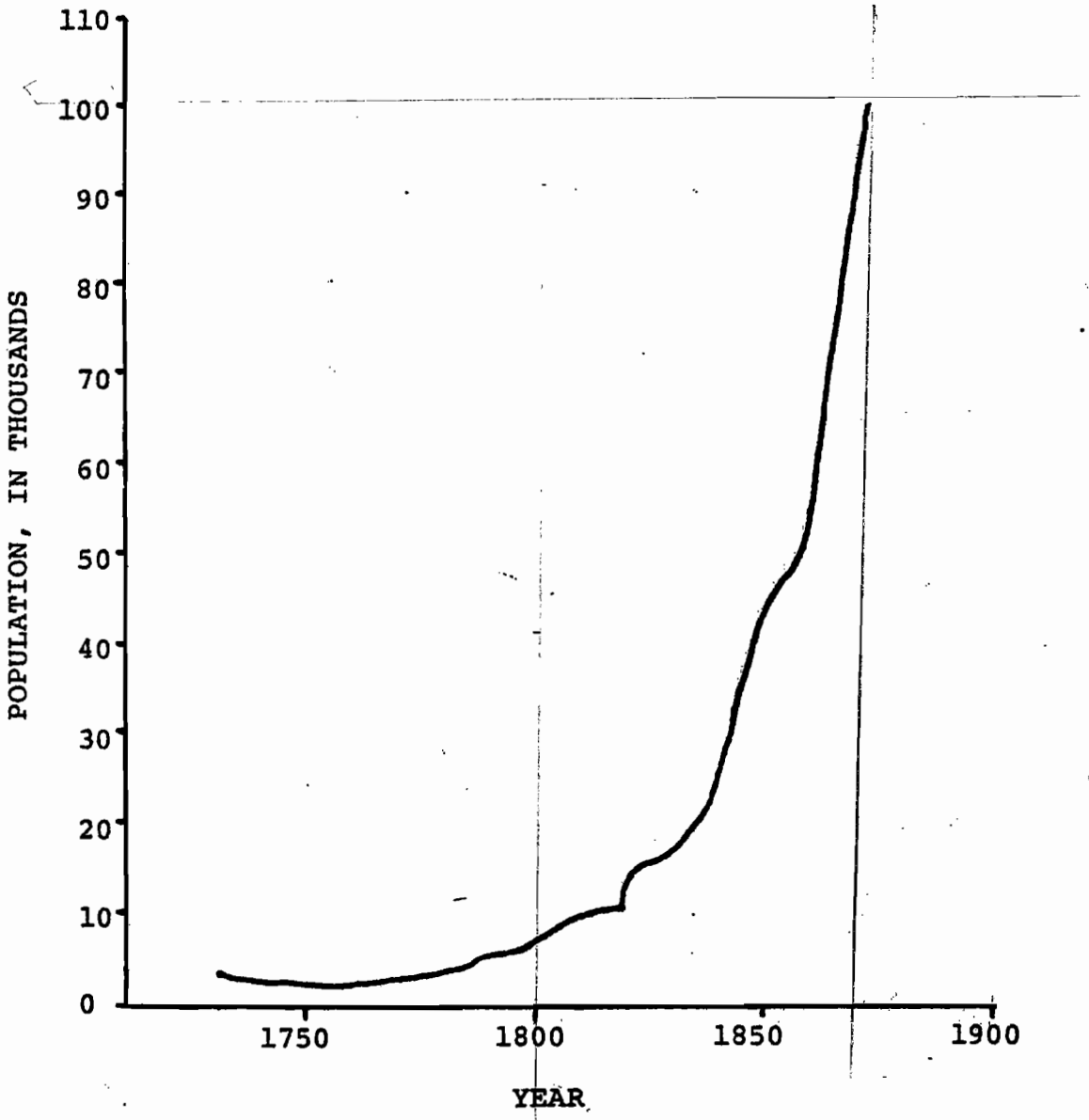
With an increasingly mechanized, energy-intensive mode of production, came a gradual shift in energy sources and in fundamental materials.[20] Water gave way to coal; iron and steel supplanted wood. Perhaps this was anticipated by the many machine shops which opened throughout the state between 1810 and 1820, ranging in function from heavy forging to bolt, nut, and screw production. Scythes, guns, and even mill machinery were manufactured within the state.[21] In 1819, a shipload of coal arrived at Providence from Newcastle, England; for years thereafter, the frequent ships from Liverpool continued to deliver coal.[22] In 1836, excited speculators and "mining experts" even induced the city of Providence to appropriate $2,000 to bore for coal in the northern part of the city.[23] The venture, needless to say, was in vain. By the 1870's, Mark Twain's "Gilded Age" had come home to roost. Bituminous coal was introduced into smelting, and the petroleum industry was taking huge strides.[24] Rhode Island manufactures, for their part, were flourishing.

As mills and their workers began to cluster at various points in the state, and as goods and information had to traverse greater distances, the need for improved transportation and communication made itself felt. Between 1803 and 1842, thirty-six turnpike companies were incorporated in Rhode Island, to build arteries connecting the young mill towns.[25]

The coal mentioned above was useful, for its part, in powering railroads. The Providence and Boston commenced operation in the summer of 1835, offering a brisk, five-stop, two-and-a-half hour trip between the two cities.[26] Before long, incorporation acts had passed for the Providence and Fall River, the Providence and Plainfield, the Hartford, Providence, and Fishkill, and other railroads.[27] In fact, so successful was the iron horse that the Blackstone canal was driven out of business in 1849 by the competitive Providence and Worcester Railroad.[28] Two years before that, aided by a supportive new General Incorporation Law, Rhode Island's first telegraph company had obtained its charter, with authority to build connecting lines from Providence to Boston, New York, Fall River, and Newport.[29]

But the web of transportation and communication routes is less relevant here than the ganglia with which it was studded: the towns. Rural individuals and families, and hordes of immigrants (especially Irish) flocked to the centers of industry, spawning the complex urban pathologies so familiar to the twentieth century. Providence is a convenient example, since early census figures are available. The growth of urban consciousness there began quietly enough. In 1831, a riot broke out between drunken white sailors and "dissolute and disorderly" members of the town's sizeable black population. Troops were summoned, shots were fired, and five lives were ended. A month later, the town freemen met and voted, three to one, to form a city government, a course they had rejected just

one year earlier.[30] In a sense the move was after the fact. As the graph shows, Providence was well on its way to urban stature.



POPULATION GROWTH IN PROVIDENCE DURING THE EIGHTEENTH AND NINETEENTH CENTURIES. 31

The deepening urban-rural bifurcation is nicely revealed by the reaction to an 1840 proposal to build an addition to the State House in Providence. Rural members of the General Assembly opposed the addition, fearing that "it would take $20,000 to satisfy the 'fine notions' of the people of Providence."[32] The alien social patterns of the urban immigrants deepened this bifurcation. In the decade before 1850, for example, the population of Providence grew eighty per cent and rose to above twenty-five per cent in foreign-born residents.[33] The reception accorded the immigrants was far from warm; nativism and bigotry surfaced in 1855 with a resounding Know-Nothing victory in the state elections.[34]

The demographic and social upheaval could be neither ignored nor easily reconciled, and by the time of the Civil War, the features of urban development were well recognized. An 1863 appeal for a new hospital in Providence referred to the large proportion of residents who

> are either without homes of their own, or have left their homes at a distance to find their occupation in this city. 35

A year later, one astute local observer wrote that

> there is a marked tendency to centralization, the growth being principally in Providence and its neighborhood, in villages where waterpower is abundant and convenient, and in a few points which are favorably situated for fisheries and navigation. . . . This disproportionate growth of the compact and manufacturing places depends in a great degree on the influx of foreign-born inhabitants with their families. 36

But mere awareness was not enough. It led, palpably,

to vigorous attempts to cope t' rough a constellation of social, political, economic, and physical means. This coping became, in itself, a dominant mode. And as the century drew to a close, a prominent Providence physician was able, serenely and with confidence, to write:

> When a man lives by himself, he can do as he pleases and let others do the same, but when 125,000 people are gathered together on 10 square miles of land they must of necessity give up certain of their liberties. It is the sacrifice they make for the sake of the advantages of city life. The denser the population the more stringent and exacting must be sanitary regulations and indeed all other regulations. Americans, particularly those whose memories reach back to the time when our cities were villages, are prone to forget this. 37

CHAPTER TWO

RESISTANCE AND REFORM

The transformation to industrial life, however ineluctable, did not occur harmoniously. In fact, much of the social history of nineteenth century America can be viewed as a national identity crisis, and crises of that sort are rarely harmonious.

The identity crisis revolved around a redefinition of the individual's place in society. The Jeffersonian ideal had been agricultural--a nation of small freeholders, each with "moral probity, economic security, /and/ political independence."[1] Now that agriculture would, at best, have to coexist with industry, this conception demanded either renovation or replacement.

Orestes Brownson advocated one approach in his widely read 1841 essay, "The Labouring Classes." He confirmed his faith in the Jeffersonian vision:

> We ask that every man become an independent proprietor, possessing enough of the goods of this world, to be able by his own moderate industry to provide for the wants of his body. 2

Rhode Island embraced such sentiments on several occasions. Around 1840, "the intellectual climate of Rhode Island was dominated for more than a decade by transcendentalism and 'the newness.'"[3] A few years later, a wave of Fourierist Utopian Socialism swept the state; Rhode Islanders sat on the board of the New England Fourier Society, attended conventions of the American Union of Associationists, and advocated Fourierist thought locally.[4]

But the more profound and lasting response was a realignment of social loyalties and political alliances. Discrete economic classes arose and, by the Jacksonian era, class consciousness was widespread and significant.[5] The result was movements like the ten-hour-workday campaign of the 1840's and '50's. This campaign, which was active in Rhode Island, grew out of an explicit Jacksonian effort to guarantee the rights of workingmen.[6] The Dorr War, an abortive 1842 rebellion against Rhode Island's antiquated chartist government, reflected the demands of a growing unpropertied laboring class. A constitutional government with liberalized voting requirements was quickly erected.

Old political generalizations also needed rethinking. The Whigs came increasingly to champion property rights, and the Democrats began to stand for human rights. The identity of the two kinds of rights was thus seriously challenged, and the old Jeffersonian notion of property disintegrated.[7]

Further, a series of reform movements arose during the first half of the century, and although their proponents were often genteel and wealthy, the reforms stood in inherent ideological opposition to the advance of business interests. This tension can be seen in the fate of an 1838 licensing law in Rhode Island. The law, inspired by temperance advocates, forbade the sale of alcohol on Sunday or to habitual drunkards at any time. "This experiment in prohibition," wrote one nineteenth century commentator laconically, "was unpopular

among businessmen."[8] Sure enough, a repeal was proposed within several months on the grounds that local business was suffering intolerably. The House rejected the repeal, but only by a slim majority of six.[9]

Rhode Island had its full share of reformers, despite (or because of) the continued growth of industry, and numbers of substantial citizens were involved. One of the nation's strongest anti-slavery groups was led by the Browns, Angells, Buffums, Howlands, Lovejoys, and Chaces. John Howland and William Chace also directed an active temperance society. A vigorous peace society was dominated by Quaker families like the Buffums, Browns, and Chaces.[10] And so on.

The reforms, in many instances, were successful. "Great anti-slavery meetings were held in several places in the state" during the 1830's;[11] in 1838, a bill passed which forbade the import of slaves into Rhode Island and provided for the emancipation of any who were imported.[12] This was followed in 1847 by a law prohibiting the assistance of sheriffs and other state officials in the capture or detention of runaway slaves.[13] In 1838, the death penalty was restricted to willful murder, arson, and treason; in 1852, it was abolished altogether.[14] A number of sordid but time-honored practices fell open to challenge. In 1851, for example, acts were passed by the assembly prohibiting corporal punishment and dungeon confinement in asylums and poorhouses, and establishing investigations of child labor.[15]

An interesting example of a Rhode Island activist is Elizabeth Buffum Chace, wife of a prominent manufacturer and daughter of Arnold Buffum, the New England Anti-Slavery Society's first president. Mrs. Chace, an ardent abolitionist herself, discarded Quakerism early for the "liberal theology" of Theodore Parker, then a religious and social outcast. Her interests ranged from spiritualism to clairvoyance to progressive educational methods (which she used on her own children), from dietary reform to the elimination of capital punishment to penal reform. She was something of a feminist, playing a key role in the American Womens' Suffrage Association and even wearing bloomers, and she organized the Ladies Board of Visitors for State Institutions.[16]

Certain writers have maintained that the public health movement initially grew out of just such a constellation of concerns, that its motivation was essentially humanistic. One feels, for instance, that public health

> arose as a movement of protest against the degrading conditions in which a large portion of mankind was compelled to live in consequence of the industrial revolution and the growth of modern capitalist economy. 17

As we shall see, the case of Rhode Island does not bear out this view. But like any period of identity crisis, the nineteenth century was characterized by intense and prolonged self-questioning. This spirit drove the reformers of the time, and it opened enough eyes to reveal the need for public health action.

CHAPTER THREE

THE PROBLEM OF HEALTH

Awareness of the need for public health action came slowly to Rhode Island. In part, this can be attributed to the relative well-being of Providence, which should have been the nadir of health in the state. The city was built on a series of hills which provided good drainage. Houses were separated by numerous trees and gardens, and there were few narrow courts and closed lanes. Large tenement-houses were rare, and the city enjoyed an "almost total absence of cellar tenements and underground population."[1] The Providence Water Company and Rawson's Fountain Society had piped distant spring water into the city through bored wooden logs since before the Revolution.[2] Furthermore, until the 1830's, the frontier existed as an escape mechanism, permitting people to divert their attention from proximal urban problems.[3]

But such transient extenuations were challenged by increasingly serious health problems, and by a growing tendency to correlate these problems with environmental conditions. The health problems themselves derived from the details of urban congestion: piped-in water became insufficient and local springs were contaminated; sewage removal became formidable and waterways were polluted; penurious laborers worked in hazardous environments, ate substandard foods, and lived in squalor. The correlation of health problems with environmental conditions, on the other hand, had some precedent.

Occupational health provided one such model. Bernardino Ramazzini's De morbis artificum diatriba had been published in 1700; its subject, not surprisingly, was widely resurrected during the Industrial Revolution. In 1831, Dr. C. Turner Thackrah, a practitioner in Leeds, England, published a work on "The effects of the principal arts, trades, and professions, and of civic states and habits of living, on health and longevity." A few years later, Benjamin McCready wrote an essay "On the Influence of Trades, Professions, and Occupations in the United States, in the Production of Disease," as an entry to a contest sponsored by the Medical Society of the State of New York.[4] By mid-century, the United States Census differentiated occupations. The workplace, as a variable set of environmental conditions, was now causally implicated in health and social conditions.

This tradition was not the only model for Rhode Islanders. Paris and London had industrialized early, and had undertaken public health reform accordingly. By mid-century, they served as examples.[5] Even Rhode Island's northern neighbor illustrated some such reform; Massachusetts provided for the registration of vital statistics as early as 1843. In 1847, the newly formed American Medical Association appointed subcommittees to espouse registration, and by 1860, eight states had followed Massachusetts.[6]

But for the real inducement to public health reform, Rhode Island did not have to resort either to medical

history or to national trends. It had only to heed the self-critical injunctions of the reformers, and look to its own cities. There was mounting subjective evidence that urban life was somehow unhealthy. Epidemics thrived in the crowded, unsanitary quarters of the laboring population. With the exception of scarlet fever, every one of the so-called zymotic diseases was more prevalent among immigrants than among natives.[7] Drainage notwithstanding, a palpable stench penetrated the streets of Providence, and pedestrians often had to contend with nausea and knee-deep muck. By mid-century, a Providence physician called for both reform and further information:

> In our own large city, and manufacturing villages, into which the population of this state is fast centering itself, there is a necessity for sanitary measures of improvement, and for every aid in investigating the manifold influences affecting health and life. 8

The "aid in investigating" health problems took the form of vital statistics which, by the 1840's, were "becoming the reality of science," and whose "use within the medical establishment at once expressed and justified an increasingly critical temper."[9] These statistics, gathered and assembled with increasing precision, supplemented subjective impressions to create an unavoidable awareness that something was wrong with urban health. A number of American cities had amassed reliable statistical information,[10] and Providence was foremost among them. In fact, in 1857, the Providence Journal

could justifiably boast that local statistical data took "rank among the most perfect published by any of the cities in our country."[11]

Nor did this information go unheeded or unanalyzed. A prominent Providence physician promptly drew some conclusions from the very data which had inspired the Journal's encomium:

> Statistics and experience have established the fact, that the collection of human beings in cities is prejudicial to health, and that in all cities, without exception, there is more disease, more deaths in proportion to the population, and that the average age of those who die is much less than in the neighboring country population. 12

Clearly, in the words of a modern historian, the examination of statistical evidence

> had proven what common sense had already known: in any epidemic, those who had the faintest chance of surviving were those who lived in the worst conditions, in the dirtiest, most crowded, and least ventilated houses. 13

If it is facile to cite humanistic altruism as a direct motive for the advent of public health, it can well be argued instead that "the public health movement was the result of a growing consciousness of the physical dangers of city life."[14] In an era not known for its medical certainty, here was a fact, incontrovertible, significant, and admitting of intervention. It remained only to take the initiative for this intervention.

CHAPTER FOUR

DOCTORS AND HEALERS, IMPOSTORS AND ROGUES: THE MEDICAL SETTING

The Rhode Island Medical Society had formed in 1812, and for years it carried the banner of professional unity and institutional medicine. But it was an organization of "regular" physicians in a pluralistic medical world, one alternative from a multiplicity of doctrines, treatments, and practitioners.

Some of the new therapies were self-help methods, appealing to the anti-elitist, independent inclinations of the Jacksonians, and consciously associated with contemporary reform movements. Others were jealously administered by a variety of institutions and individuals. Most fell somewhere in between. Elizabeth Buffum Chace, the versatile reformer mentioned earlier, demonstrates well the conjunction of political and medical iconoclasm. She lost five of her children while under regular medical care, and became a ready convert to spiritual healing. During subsequent years, Mrs. Chace submitted to hydropathic treatment, consulted a practitioner of animal magnetism, and used mysterious compounds of spiritualist medicine.[1] Dissatisfied with a status quo that appeared outmoded and inadequate, she, and many like her, turned to alternatives in every realm, including the medical.

In fact, two of the major reform movements in Rhode Island before 1850 were Mesmerism and phrenology, both of which paralleled and supplanted some conventional medical

functions.[2] The former treated personal problems, including disease, through hypnosis; the latter involved the interpretation of character and health through skull contours. A third example, botanic treatment, also demonstrated explicit anti-professionalism. Indeed, this treatment may have arisen largely as a reaction to the intrusive and destructive medicines popular among the regulars, ranging from lethal heavy metals to addictive narcotics.

The most successful botanic system was developed by a New Hampshire farmer, Samuel Thomson (1769-1843). Thomson believed "that all disease is the effect of one general cause, and may be removed by one general remedy."[3] The cause was cold, and the remedy heat, administered directly through steam baths and "hot" herbs like red pepper, and indirectly through purgatives, emetics, and sweat-producing herbs. In Rhode Island, a Dr. John A. Brown marketed Thomson's program. Brown was proprietor and physician of the Rhode Island Botanic Infirmary in Pawtucket, and President of the Rhode Island Botanic Association. His goal, he preached, was to help the people of the state avoid

> the numerous aches, pains, and thousands of other miseries, so commonly experienced, as the long standing and often fatal effects of mineral poisons administered by the boasted Medical Faculty. 4

To this end, Brown commenced publication of the Rhode Island Botanic Advertiser in 1835, and supplemented it in 1837 with The Family Guide to Health, Containing a Description of the

Botanic Thomsonian System of Medicine.

Nor did all botanic treatment fall under the rubric of Thomsonianism. Numbers of private practitioners were established in the state. Mrs. Lydia Capwell, for instance, proferred advice and recipes for years to Providence residents, and finally, in 1850, published the Vegetable Medical Assistant, Prepared for the Use of Families. Indicative of her approach is the following caveat:

> No morphine, mercury, or laudanum ought to be taken in any case except Quincy, for they injure the blood--and the blood is the life of mankind. . . . Bleeding is wrong in any case, for it draws off the best of the blood. 5

She recommended fresh air, a generally healthy diet, and an assortment of ointments and medicines containing everything from sassafras to rum to cat's tongue! As late as 1878, Dr. H. Franz, "the great Indian Half Breed, Root and Herb Physician," maintained a large practice on Mathewson Street in Providence. A "regular graduate in medicine of one of the best Botanic Medical Colleges in America," he boasted "the largest practice and the finest arranged Medical Institute in New England."[6]

Another therapy associated with reformist thought was animal magnetism, or magnetic healing. This was based on the belief that the planets exert an influence on humans, an influence duplicable by magnets or by a skilled hand through animal magnetism.[7] As early as the 1830's, the Providence Journal printed approbatory accounts of cures by animal mag-

netism;[8] forty years later, a magnetic healer named Dr. Henion, "late of Baltimore, Chicago, Cincinatti, Rochester, N.Y., and Fall River, Mass.," wandered into Providence, engaged rooms, and offered to cure epilepsy, diabetes, blindness, sexual malfunction, rheumatism, heart disease, kidney disease, and many more.[9] A fairly steady stream of magnetic healing flowed in the state during the intervening years.

A variety of other approaches prevailed. One extreme example is the mysterious "Sylvan, Enemy to Human Diseases," who published a number of long tracts in Providence between 1810 and 1820. They were religious in tone and vaguely miasmatic in theory, featuring restrictions against salt, liquor, tobacco, and coffee.[10] At the other extreme was the Sweet family of South County, representing a very different, and fascinating tradition. This family brought a talent for natural bonesetting from England in the mid-seventeenth century, and continued to practice for many generations, down through the early twentieth century! A nineteenth century observer wrote of the Sweets,

> They are for the most part industrious farmers, mechanics, laborers, and fisherman /sic/, all in humble circumstances, but none in poverty. Without ambition, they are respected by all; without wealth, they are comfortably situated. They are temperate except those who make bonesetting their prominent occupation, and these resort to liquor as a stimulant to the interior senses only when immediately engaged in the line of their profession. 11

Highly regarded for their skill and complete lack of avarice,

the Sweets were frequently patronized by members of nineteenth century "society" from New York, Boston, and Philadelphia, who summered in the Narragansett-Newport area.[12] Still another example of irregular approaches is nostrums and patent medicines, which advertised miraculous curative powers in nearly every issue of local nineteenth century newspapers. Davis's Pain Killer, one such "indispensible household panacea," was manufactured in Providence, and enjoyed national and international sales.[13] Finally, many of the resorts of Narragansett and Newport operated as health spas, and even Providence boasted a "Medicated Vapor Bath Establishment, and Asylum, for the Sick," opened by a Dr. A. Hunting in 1845.[14]

But unquestionably, the dominant and most tenacious irregular treatment in Rhode Island was Homeopathy. This was an approach developed by the German physician, Samuel Hahnemann, and brought to this country in the early nineteenth century. In the words of one Rhode Island homeopath, its basis was this:

> It is a well attested and an undeniable fact, that a vast many dynamic diseases are cured by both large and small doses of medicines, which medicines, when taken by the healthy, in smaller or larger quantities, in weaker or stronger doses, are capable of producing an assemblage of symptoms similar to those exhibited by the diseases which have been thus cured. 15

In a word, like cures like, or similia similibus curantur. Like the herbalists, the homeopathists rejected intrusive

regular treatments, and subjected their relatively innocuous materia medica to quantitative dilutions. The doctrine was introduced to Rhode Island by New York's Dr. William Channing, nationally renowned advocate of homeopathy and author of one of its major American apologia, On the Reformation of Medical Science Demanded by the Inductive Philosophy.[16] In June, 1850, the Rhode Island Homeopathic Society formed,[17] and a year later it incorporated.[18] The eleven original members were subjected by the regulars to the same depredation as were other sects; their second president, I. Barrows, boasted at his 1851 inauguration that it took "Spartan blood" to dare "espouse the commonly repudiated doctrines of Hahnemann."[19]

But Spartan blood was not necessary for long. Homeopathy, even more than some of its irregular counterparts, was soon accepted and even embraced by some of the state's most prominent citizens. Perhaps Barrows forgot the persistent popularity of the Sweet family. Perhaps he forgot that Dr. Isaac Ray, eminent superintendent of Butler Hospital and a central figure in the Rhode Island Medical Society, had championed phrenology.[20] Perhaps Barrows was unaware that by 1850, in other parts of the country, hydropathic and homeopathic physicians were welcome in some of the most respectable homes.[21]

In any case, as Barrows wrote in 1851, he could scarcely have predicted the course Rhode Island medicine

would follow. The regular professionals would continue, for at least two decades, to be held in remarkably low esteem,[22] and irregular practitioners would prosper throughout the state. In 1877, when Rhode Island contained well over 300 doctors, only 147 belonged to the Medical Society. Five years later, when the number of doctors had passed 400, Medical Society membership had only risen to 186.[23] By 1889, there were 430 practitioners in the state, and only 223 belonged to a regular medical society, state or local. One physician estimated that Rhode Island contained 200 "irregular practitioners, either transient guests in the state, self-styled professors in so-called medical institutes, or the veriest charlatans of low degree. . . ."[24] So legitimate did the irregulars become, in some cases, that even Charles V. Chapin, later a prominent regular, was graduated from Brown in 1876 and promptly commenced to study medicine with a homeopath. The individual was George D. Wilcox, "a member of an old New England family, a Republican, and one of the leading physicians of the city, although he belonged to the homeopathic sect."[25] A movement, or rather a set of movements, born of pariahs and nurtured by reformers, had matured in a short time to become themselves the backbone of an accepted pluralistic status quo.

It was probably this casual acceptance of irregulars, and the high profile which the irregulars could consequently

maintain, which posed the greatest threat to the regulars. They answered the challenge with a steady barrage of epithets and vitriol, innuendo and slander, and occasionally with substantive rebuttals. But underlying all the responses was a certain defensiveness, epitomized by the helpless sarcasm with which one regular described the tribulations of a beginning physician:

> . . . he is doomed to chagrin and disappointment, in beholding many of his firmest friends and most reliable patrons, from all grades of society, drawn, as if by irresistible magic, after the first form of delusion and empiricism which happens to be offered them. The Indian doctor makes his appearance in the quiet village; extensive rooms are opened on the opposite side of the street, and well supplied with all the appliances of his trade; innumerable roots and herbs of known and unknown name, unguents of unheard-of potency, plasters to sooth all pains and heal all wounds, . . . powders, composed of stings and fangs of serpents, entrails of toads and eyes of fishes, compounded by a seventh son, while the clock was striking the mysterious hour of midnight. . .; and if charms and amulets are wanted, he can say, like Shylock of his balances, "I have them ready;" hand-bills are spread around, relating his wondrous deeds of cure, well certified by distinguished foreigners, literary men of note, and clergymen, and as he himself, in fanciful attire, with brisk tandem team, dashes with Jehu-like speed from point to point, the whole town pauses and stands agape with wonder and admiration. A delightful sensation of something new steals over the community, and soon the Indian doctor's rooms are crowded with deluded patients, to whom hope and excitement lend temporary relief, and our intelligent and worthy practitioner sits quietly in his office, forgotten and perhaps dispirited. 26

The same physician, during a more serious moment, bemoaned the "lack of veneration, or even respect, which too much characterizes our nineteenth century."[27]

In 1850, the Rhode Island Medical Society undertook a particularly methodical attack on Homeopathy by offering its Fiske Fund Prize for a dissertation rebutting Hahnemann's doctrines. The winner was Dr. Worthington Hooker of Norwich, Connecticut, whose book, Homeopathy: An Examination of Its Doctrines and Evidences, reveals as much about the regulars as it does about its subject. Hooker was distressed by homeopathy's "adoption by so many of the intelligent and influential among the non-medical portion of the community."[28] In response to an apparently common charge, he asserted that regulars were more than willing to accept legitimate medical discoveries, and were "not, as a body, bound down by a stupid and obstinate attachment to antiquated customs and notions."[29] Finally, and most desperately, he ended his attack on Homeopathy by linking it with radicalism: "Lofty and scientific as are their pretensions, their spirit is the very spirit of radicalism." Hooker warned that "the influence of this issue extends beyond our science and our profession" since, through the success of Homeopathy, radicalism was "thus emboldened in its warfare against other interests, even against that most precious of all interests, the best gift of God to man, the religion of the Bible."[30] To support his claims, he called on "every good citizen, every lover of science, of good order, of morality, of religion."[31]

In truth, the regulars were well advised to be defen-

sive; they had precious little to recommend them. The two traditional mainstays of their treatment, bleeding and heroic medicines, were hardly popular. Bleeding fell into disfavor during the 1850's; by the time of the Civil War, the Confederate surgical Manual condemned the "time honored absurdity of venesection" and a Unior surgeon could report that bleeding seemed "to have been abandoned altogether."[32] In terms of heroics, even Hooker admitted that

> for more than half a century, there has been a decided movement in the profession in opposition to an indiscriminate heroic medication. . . . the utmost that can be said of Homeopathy on this point is, that it has had a decided influence, though an indirect one, in favoring this tendency in the profession. 33

During the Civil War, Surgeon-General William A. Hammond issued an order prohibiting the use of calomel and tartar emetic by any army doctor, precipitating a wave of self-questioning, anger, and disbelief among many professionals.[34] Yet as late as the 1870's, heroic medicines were still used by many Rhode Island regulars,[35] and provided a source of jolly ridicule to irregulars. The only real clinical progress prior to mid-century was the introduction of the stethoscope and clinical thermometer, and the "discovery" of anaesthesia.[36] It was in this medical context, contentious and fragmented, uncertain and groping, that the problems of urban health made their appearance, and demanded a medical response.

CHAPTER FIVE

LAWS AND NUMBERS, BEDS AND DRUGS: EARLY DEVELOPMENTS IN PUBLIC HEALTH

A number of developments helped pave the way for the formation, in 1878, of the State Board of Health. This chapter will undertake a selective survey of some of these developments; we will find, in the end, that a common pattern of sources and methods will emerge.

THE RHODE ISLAND HOSPITAL

By 1850, Providence was a sizeable city, but it still contained no general hospital. The Dexter Asylum had opened in 1835, and Butler Hospital had followed in 1844. The Marine Hospital was in reality only a lazaretto, and several pest-houses completed the roster of inpatient facilities.[1]

The initiative for the construction of a hospital was seized by the city's regular physicians, through their Providence Medical Association. At its meeting of October 6, 1851, the group discussed the inadequacies of the hospital situation, and formed a committee to inquire into the "propriety" of establishing a hospital. The committee was chaired by Dr. Usher Parsons, and consisted of Drs. Joseph Mauran, L. Miller, R. Brownell, George Capron, S. A. Arnold, and C.W. Fabyan.[2] Two months later, the committee circulated a letter to every citizen of Providence whose tax assessment exceeded one hundred dollars.[3] The letter stated that

> The physicians of Providence have long felt the want of a hospital in this city for the reception of patients who require medical and

> surgical treatment, and who are not otherwise provided for. They meet such patients in their professional walks daily whilst to the public generally their great umber rarely becomes known. . . . 4

The letter lamented the necessity of travelling to New York or Boston for sophisticated treatment, and appealed for support in rectifying the situation. No response is recorded.

A year later, the Medical Association went directly to the City Council. It petitioned that the Tockwotten estate, then the site of the Reform School, be designated for the construction of a hospital, contingent on raising fifty thousand dollars in private subscriptions. The project failed on two counts; the City Council's committee refused to divert the estate from its assigned use, and the funds were not obtained.[5]

In November, 1853, on a motion by Dr. Edwin M. Snow, the Medical Association voted "that the committee established in October, 1851, be authorized and requested to make such measures as they think expedient to further the object" of a hospital.[6] Apparently, no measures were found expedient, and in June, 1855, the Providence Journal complained of the "tardiness of the medical faculty of the City in moving on this matter."[7] The onus for continued action lay, by default, with the profession.

Two events triggered the construction of the hospital. Money was donated, and the Civil War occurred. In August,

1857, Moses Brown Ives died, leaving fifty thousand dollars to be devoted to "object of public beneficence."[8] In the spring of 1863, with the Civil War raging as far north as Pennsylvania, Rhode Island was swept by a patriotic fervor, and the trustees of Ives' estate were persuaded by Medical Association members to channel forty thousand dollars into the construction of a hospital. The two trustees, one a son and one a brother of the decedent, added a total of thirty-five thousand dollars of their own money. By May, in response to an expanding subscription, the City Council conveyed the hospital site to the two-month-old Rhode Island Hospital Corporation. In only four months, the subscription exceeded two hundred thousand dollars, and it continued to grow rapidly.[9]

The Rhode Island Medical Society, led by some of the same members who were active in its Providence counterpart, soon jumped on the bandwagon. In June, 1863, the Society passed this resolution.

> Resolved, That this Society view with the deepest interest the successful progress of the movement for the foundation of a Rhode Island Hospital,- a movement which began with the City of Providence, but has now been enlarged to embrace the whole State within the scope of its beneficent operations; and we promise to the corporators of the Hospital all the aid and influence we can furnish in its behalf, as physicians and citizens. 10

The Hospital Corporation then requested that the Medical Society appoint a committee "with whom the committee on

plans . . . may consult with regard to the construction and arrangement of the Hospital buildings."[11] The committee was composed of Drs. Isaac Ray, Charles W. Parsons, J.H. Eldredge, J.J. Smith, George L. Collins, J.W.C. Ely, and Sylvanus Clapp. It considered the emerging hospital plans, and made suggestions during 1864.[12]

The extent to which members of Providence "society" were drawn into the hospital project during these formative years is remarkable. The state governor and the mayors of Providence and Newport were regularly, if symbolically, named ex officio officers of the hospital Corporation. Committee rosters were studded with representatives of eminent families, and the annual lists of contributors read like a Social Register. Every year saw the Arnolds, Aldriches, and Cushings, the Chaces, Hazards, and Jenkses, the Metcalfs, Sayles', and Waterhouses, as contributors. The owners of mills and factories, whose growth had contributed to the need for a hospital, gave regularly and generously.

But there is every indication that the hospital transcended social distinctions by depicting itself as a cause worthy of everyone's support. Numbers of mechanics' associations and workingmens' collectives made donations, as did many of the Churches in Providence. In fact, speeches and articles which promoted the hospital fund were replete with mentions of "the most genuine and appropriate

manifestation of the Christian civilization," "relief to the sufferings and healir to the diseases with which man is everywhere so grievously afflicted," "treasures both of humanity and of knowledge," and so on, references which were politically and economically neutral, and morally irresistible.[13] The rhetoric succeeded; on October 1, 1868, the new Rhode Island Hospital was opened, and before the first patient was admitted a few days later, over six thousand visitors inspected the facilities.[14]

The hospital had been from the first the brainchild of the regular professionals, and the medical staff was naturally drawn from the Medical Society. It included such names as David King, Edwin M. Snow, and E.T. Caswell, as well as those original Medical Society Committee members who were still alive. This opportunity for intensive and continued professional collaboration must have brought medical attention to bear on common problems; one such problem was the pharmacopoeia.

PHARMACEUTICAL STANDARDIZATION

The movement to standardize the American pharmacopoeia had been launched in 1817, when New York's Dr. Lyman Spalding proposed a national convention for the purpose. In September, 1818, the Rhode Island Medical Society endorsed Spalding's plan and appointed delegates This was the second medical society in the nation so to respond, and it was to be the only group in Rhode Island which did so. In June, 1819,

a pharmacopoeia convention for New England states was held, with Rhode Island Medical Society delegates in attendance.[15] Beginning in 1820, decennial conventions were held in Washington, D.C.. Although Rhode Island failed to be represented during some years, a few delegates were usually sent by the Medical Society. In fact, Rhode Island's Joseph Mauran was the Vice President of the 1850 Convention.[16] Three delegates were appointed to the 1870 convention, Sylvanus Clapp, Charles W. Parsons, and Oliver C. Wiggins.[17]

But pharmaceutical reform efforts in Rhode Island were not limited to standardization on a nationwide scale. They extended also to regulation on a local scale, and they were largely fueled by the Medical Society after the Civil War. In 1869, for example, at the very same meeting during which delegates to the 1870 national convention were elected, the Society went on record as believing

> that it is the duty of this /state/ legislature, to protect the profession of medicine and the public from the accidents resulting from the ignorance of that class of citizens engaged in the vending of medicines, by a proper examination and license from competent commissioners. 18

A committee, consisting of Ariel Ballou, Sylvanus Clapp, and Edwin M. Snow, was appointed to pursue the matter. By 1872, it had exerted enough pressure on the state Assembly to secure the passage of a thorough regulatory statute. The statute delimited who could sell drugs, established a State Board of Pharmacy with powers of examination, registration, and enforcement, and specified certain known poisons which

would be strongly regulated. These included compounds of arsenic, strychnine, and cyanide, opium preparations (paregoric excepted), and "proprietary or secret medicines recommended, sold, or advertised as Emmenagogues and Parturients."[19] Notably absent were the heavy metals mercury and antimony, the bases of calomel and tartar emetic respectively. In fact, the law appears largely to have been directed toward the medicines of those sects which rivalled the regulars.

In defense of the regulars, it must be said that some of the proprietary and sectarian medicines did demand regulation, and that the regulars were more forthright than most medical interest groups on this issue. At the September, 1873 quarterly meeting of the Medical Society, for example, Dr. Lloyd Morton described the case of a patient with delirium tremens for whom he had prescribed Chloral Hydrate. The patient's wife, "who was also dissipated," had continuously renewed the prescription over a period of months for her own use, and was finally found "dead in a woodshed."[20] In response to the story, the Society passed a salutary and relatively non-partisan motion:

> Resolved, That in view of the disastrous effects occasionally arising from the continued use of powerful remedies, without due medical authority, the Rhode Island Medical Society earnestly requests the dispensing apothecaries of the State to positively decline renewing prescriptions containing toxic or narcotic remedies without fresh authority from the prescribing physician. 21

By the mid-1870's, then, the regulars had clearly come to the

forefront of pharmaceutical regulation, through their early response to a pressing problem, through their deliberate partisan maneuvers, and through efficacious influence in the General Assembly.

PROFESSIONAL LICENSURE

A third public health development was more contentious and took longer to come to fruition, capturing as it did all the internal rivalry of the medical sector. This was professional licensure and registration.

Like hospital construction and pharmaceutical regulation, this issue received increasing attention in the years after the Civil War, as the nation groped and muddled its way toward a new order. Each medical interest in the state would probably have supported legislation favorable to itself, but again, the regulars took the initiative through the Rhode Island Medical Society. At its annual meeting of December, 1869, the Society passed the following resolution:

> Whereas, The medical art is important to the health and happiness of society; and
> Whereas, It is an art demanding the highest qualities of mind, the most careful and long continued preparatory training, together with an extensive culture; and
> Whereas, A large number of persons who can lay no just claim to such knowledge, and who are confessedly non-graduates from any chartered school of medicine or licensed from any State Society, are practicing this art in our State, thus trifling with and jeopardizing the lives and happiness of the people; therefore
> Resolved, That a committee of three be appointed to obtain from the General Assembly, such legislation as may be necessary to protect the citizens of this State from the empiricism of

> ignorant and unscrupulous persons who are practicing medicin without the semblance of qualification, either legal, moral, or educational. 22

Drs. Oliver C. Wiggin, Edwin M. Snow, and George L. Collins constituted this committee.

This was an unprecedented thrust in the direction of professional monopoly, and the post-war desire for order was no match for anti-elitist sentiments which had been deeply ingrained i.. the Yankee consciousness since Jacksonian times and even earlier. Although, as we have seen, professional retrenchment was not a motive whose only expression was the licensure issue, an appeal so direct was resisted for years by the public and Assembly alike, whose members "thought that the doctors were trying to put something over for their own aggrandizement."[23]

The Medical Society's 1812 charter had enabled it "to examine all candidates for the practice of physic and surgery (who shall offer themselves for examination) respecting their skill in their profession," and to issue letters testimonial on behalf of those found skilled.[24] A Board of Censors had been formed to conduct these examinations, although respectable credentials often obviated its procedure. Membership in the Society depended on the commendation of the Censors. But in March, 1872, at its quarterly meeting, the Society discussed the possibility of appointing a Board of Examiners which would examine applicants for admission.[25] The move

would have been administratively repetitious, and interest in it probably reflected th desire for more conspicuous and methodical evaluation. No action was taken until the quarterly meeting in December of that year. At that time, the Society confronted an A.M.A. resolution calling on local Medical Societies to establish censorial procedures to certify physicians and prospective medical students. In the following March, the members voted that their existing Board of Censors already performed the first function, but established a committee to perform the second. On the committee were F.H. Peckham, Sylvanus Clapp, and Charles W. Parsons.[26] In 1875, a member of the Society, Edward T. Caswell, delivered an Annual Address advocating three to four years of college study preceding the study of medicine, as a means of uplifting the profession's intellectual status.[27] There was clearly a growing conception among the regulars that general standards of education and practice ought to be promulgated.

Consequently, in 1879 the Society redoubled its earlier efforts to secure favorable legislation. A committee was again appointed to look into petitioning the Assembly "for a law regulating the practice of medicine."[28] The committee reported back with a draft of a regulatory bill in 1880, but the Society was urable to win the bill's passage. In 1885, a memo from the A.M.A. triggered further discussion,[29] and the Society created a Board of Examiners which administered both written and oral tests to prospective members. Two years

later, no less a personage than Charles V. Chapin began to introduce licensure and egistration bills annually. Public hearings were held in 1887 at which Medical Society members spoke in favor of the bill then under consideration and numerous irregulars opposed it.[31] Finally, in 1894, a weak registration law was passed, and seven years later, it was amended to require examinations of all practitioners and to prohibit some irregular treatments.[32]

The conflict over licensure and registration illusrates anew some of the trends which emerged in the earlier discussions of hospital construction and pharmaceutical regulation. The regulars directed attention early to a pressing problem, when they were distinguished more by incipient professionalism than by clinical competence. They depicted themselves as the guardians of the public health, and justified their proposals with sweeping social arrogations rather than with narrow technical claims. Finally, they exerted sufficient influence on the General Assembly, through the Medical Society, to be taken seriously even at a time when public sentiment clearly opposed their purposes.

MEDICAL JURISPRUDENCE

A fourth area of public health, medical jurisprudence, demonstrates further these trends. The approach here will be brief and desultory rather than narrative and chronological; the aim is merely to bring into sharper focus that which has already been presented.

The regulars, through the Medical Society, directed their attention during the post-war years to a variety of issues, and rendered opinions freely on matters which today we would label "only partly medical." An example, interesting for its contemporary relevance, is the following motion, presented to the Society in 1866 by Edwin M. Snow, Charles W. Parsons, and Ariel Ballou, and unanimously adopted:

> Resolved, That the increasing frequency of criminal abortion justly excites the alarm of thoughtful citizens, and especially as physicians as guardians of the public health.
> Resolved, That the life of the unborn child should be held sacred, and its wilful, unnecessary destruction, in the view of the Fellows of this Society, is Murder.
> Resolved, That we deem it our duty, as representing the medical profession of this State, to offer our earnest remonstrance on this subject, and endeavour to contribute to the formation of such a public sentiment, that criminal abortion shall not be regarded as a venial offense.
> Resolved, That the General Assembly by /sic/ petitioned, in the form of a memorial from this Society, to amend the law of this State in such a manner as to mark Criminal Abortion as a heinous crime. 33

The General Assembly complied promptly, amending the law "Of Offences against Chastity, Morality and Decency" in March, 1867, to prohibit abortion.[34]

In another matter of medical jurisprudence, the Medical Society in 1872 discussed possible improvements of the state's medical examiner laws. Its members felt that coroners ought to have been physicians, and recommended changes in procedures of subpoena and examination of expert witnesses.[35] There is no record that the Medical Society

followed this discussion with formal action.

A third, and somewhat peripheral, issue of medical jurisprudence, is school hygiene. The Medical Society took up this subject in 1874 and 1875, trumpeting opinions and urging changes throughout the state. Its members condemned "defficient /sic/ ventilation, unequal heating, long confinement to one, often abnormal, position, and mental excitement not necessarily connected with effectual study."[36] They advocated shortened study sessions, recesses, a minimum study age (twelve years old), and many other reforms.[37] In addition, they solidified even further their image as public figures, as the responsible executors of the medical commonweal.

The pattern of these three examples is roughly the same. The Medical Society placed itself in the forefront of public dialogue on medically related issues. It deliberately strove to enhance the professional status of the regulars, and maximized its chances of success by generally adopting sensible and persuasive, if overdrawn, positions. The regulars were often pioneers in approaching pressing issues, and they were able to marshall support for their claims in the state Assembly. These trends, and others, are embodied in the final aspect of public health to be considered here, the aspect which led most directly to the creation of the State Board of Health. This aspect is the registration of vital statistics.

REGISTRATION OF VITAL STATISTICS

The registration of births, marriages, and deaths in Rhode Island already had a long and checkered history by the mid-nineteenth century. The "Colony and province of Providence," in 1647, passed an ordinance requiring parental permission, town meeting announcements, and registration with the town clerk, before any marriage could be legalized.[38] A General Assembly act of 1662 required "y^{t} man y^{t} hath A respect to a maid & doth desire to obtaine her in Marriage" to follow the same steps, and specified penalties for non-compliance. In the following year, "An Act for Preventing Clandestine Marriages" described more effective enforcement procedures.[39] These early acts appear to have been morally motivated; at least part of their object was the prevention of unChristian fornication.

"Att a Generall Assembly held at Newport May 3rd, 1698," an "Act for Registering Marriages, Births, and Burialls" was passed. This act anticipated several later practices; it defined duties for "y^{e} Town Clerke of each Town" and set forth a fee table for compensation of the clerks.

Subsequent acts and amendments during the eighteenth and early nineteenth centuries attempted repeatedly to improve the rate of returns. Members of the clergy were assigned responsibility for registering marriages which they solemnized. Registration forms, especially for marriages,

were devised and improved. And moral dicta, as in earlier acts, continued to be embodied; certain religious rituals were legitimized, bigamy and interracial marriage were prohibited, and so on. But by the mid-nineteenth century, a fairly complete Registry Act still failed to meet with "satisfactory response from those designated to carry out its provisions, and in consequence it soon became, and remained, a dead letter in the statute book."[40]

In 1849, another attempt was made to improve registration, this time by the distinguished Representative from South Kingston, Wilkins Updike.[41] Updike (1784-1867) was a member of a prominent Rhode Island family, a successful lawyer in Washington and Kent counties, a skilled orator and a highly regarded politician. Although an "old-school gentleman" who "represented in his fine personality the picturesque and leisurely life of southern Rhode Island in the eighteenth century," he was very much a nineteenth century man in his persistent efforts at reform. He was a major figure in the state's public school development, an ardent abolitionist, a trenchant proponent of judicial reform, and author of the state's progressive Married Woman Act.

In addition, Updike was a devoted and zealous historian. His favorite avocation was the perusal of primary sources, and he produced two major works, Memoirs of the Rhode Island Bar (1842) and History of the Episcopal Church in Narragansett (1847). He was elected to the American Antiquarian Society

when only thirty-one, and subsequently belonged to the Rhode Island Historical Society, the Newport Historical Society, the State Historical Society of Wisconsin, and the Protestant Episcopal Historical Society of New York.[42] He was clearly a man who appreciated the value of social data.

And so it was fitting that Updike, both reformer and historian, became concerned with the collection of vital statistics. Hoping to remedy the deficiencies of former acts, he introduced a bill which compelled physicians, "under a heavy penalty for neglect," to furnish the Medical Society president with complete returns of the births and deaths occurring within their practices. The president, in turn, was to tabulate the results and report them to the General Assembly. Although the bill did not pass, it stimulated discussion and helped galvanize the Medical Society into action. In June, 1849, the Society appointed a committee of three--Joseph Mauran, Usher Parsons, and Lewis Miller--to confer with the appropriate legislative committee.[43]

There was, within the Medical Society, some interest and ability in the statistical study of disease. Early in 1850, both the aged Usher Parsons and his son Charles W. published able statistical accounts in the Boston Medical and Surgical Journal, the former reporting cholera incidence in Rhode Island during the previous year, and the latter delineating mortality rates in Providence for the previous eight years.[44] But few members were as enthusiastic about

the potential of vital statistics as was Joseph Mauran.

Mauran (1796-1873) was a central figure in the Society. A graduate of Brown (1816) and the College of Physicians and Surgeons (1819), he had been a Fellow since the inception of his active practice in 1819. He had served as the Society's president in 1847, and would do so again from 1852 through 1855. He was, for years, Rhode Island's delegate to the American Medical Association, and, as noted above, was the vice-president of the 1850 Convention for Revising the Pharmacopoeia.[45] Legend has it that Mauran, while visiting his ancestral home in Italy, was inspired by several centuries of orderly records, and determined to initiate a similar custom in Rhode Island.[46] He attempted energetically to do so.

In December, 1849, Mauran, as chairman of the three-man committee mentioned above, presented the Medical Society with a set of recommendations for a registration law.[47] Specifically, he proposed that those who solemnized marriages report them, that parents be required to report births, that undertakers and physicians report deaths, and that forms be made available for these purposes.[48] With the Society's endorsement, he went on to submit his recommendations in a memorial to the General Assembly in January, 1850; that body referred the matter to its Judiciary Committee.[49]

The Judiciary Committee presented a draft of a Registration Bill to the House for consideration on February

8. Mauran was invited to testify in favor of the bill; he agreed, and according to the Providence Journal, he

> gave a very interesting and instructive sketch of the legislation on this subject upon the continent, and in this country, and illustrated the great importance of the information required by the bill, and the beneficial results that had been derived in those countries where such a system of registration had been adopted. 50

Mauran was apparently an eloquent and persuasive speaker. One representative, reported the Journal, rose to declare that he

> had not been able at first to see that the bill was of so much importance as it had been represented to be. This he attributed to the little information he had upon the subject. He had been much interested and instructed by the address the House had listened to from Dr. Mauran, and was excited, by the interest that had been awakened, to do what he could to perfect the bill. 51

Nevertheless, a lively argument over the bill lasted all afternoon. The object of contention was the method, devised by Wilkins Updike, of gathering vital statistics. Trustees of school districts were to monitor the marriages, births, and deaths in their districts, and report these to the state School Commissioner, who would publish an annual abstract of the returns with the assistance of a special Medical Society committee. State funds were to be withheld from districts which refused to comply. As a result, more than one representative feared "that the bill would interfere materially with another bill of much greater importance, the school act,"[52] then a key issue, by discouraging individuals from serving as trustees and by undermining the funding

procedures. Except insofar as it trespassed on other political interests, the concept of registration was uncontroversial, and attracted no substantive criticism. The House seemed willing to let Mauran and the Medical Society have their way.

Five days later, on reconsidering, the House passed the bill. The Senate considered it on February 14, and Mauran again provided "a very able and interesting explanation." He derended the "necessity of its passage, for the better development of the laws of health, mortality, political economy, &c," and the Senate listened "with marked attention."[53] After sundry amendments, the bill was enacted into law without delay.

The initial reaction was encouraging. The April 10 Boston Medical and Surgical Journal approvingly reported the Act's passage, and cited the Providence Journal's account of Mauran's speech.[54] In June, when the law took effect, all pertinent functionaries in the state received a lucid circular from the School Commissioner describing their new duties, and all members of the Medical Society received a circular from Mauran, notifying them of their obligations and soliciting their "hearty co-operation and support of the great facts and principles involved in this laudable undertaking," the better to insure "the many advantages resulting to science, the profession, and the community at large, through the agency of a perfect system of Registration."[55] By July, the

Boston Medical and Surgical Journal was quoting Mauran freely in its advocacy of registrati n laws.[56]

Longer term results, however, were not as encouraging; in fact, "not a single Return required by this Act was ever made."[57] School district trustees were, it seemed, completely unwilling to cooperate and assemble information on births, marriages, and deaths. In January, 1852, in response to a memorial from Mauran, the Assembly amended tha act, assigning primary responsibility for data collection to town clerks and providing for their compensation, reconfirming the reporting duties of clergymen, physicians, and undertakers, and setting forth penalties for noncompliance. The Secretary of State was required to receive the data, and, with Medical Society assistance, to publish them annually.[58] Subsequent amendments during the '50's and '60's sought to improve the rate of returns by raising Clerks' fees and incrementally changing collection procedures.

The state's physicians, despite Mauran's glowing circular, were something less than cooperative during the first few years of registration. Shryock has claimed that, in general, "physicians disliked the idea of submitting their insights and cumulative wisdom to prosaic, numerical tests."[59] However, the theoretical and epidemiological potential of registration was not immediately obvious, and physician resistance in Rhode Island tended to be more instrumental than conceptual. Physicians disliked the compulsory nature of

their participation, resented the absence of compensation, and in some cases found i annoying to report births of children who did not yet have names. One town clerk reported difficulty in eliciting death returns, explaining that "physicians are unwilling to acknowledge that they have lost any patients during the year, supposing it may injure their practice,"[60] while another accounted for the same problem with the opposite logic:

> Whenever I mention the necessity for these returns to the physicians practicing in our town, I am always met with the argument, "That the State has no right to an expose /sic/ of their practice, that the records in the clerk's office are free to all, that many judge of the qualifications of a physician by the extent of his practice,-- that these returns show who is the most popular physician, and will tend to increase his practice at the expense of the less favored ones." 61

In short, the beleaguered self-image of many physicians in a time of medical pluralism led to a variety of fears concerning the exposure and comparison they associated with registration.

But as the Registration Reports began to appear regularly, nurtured by a small cadre in the Medical Society, the participation steadily improved. Physicians found that registration did not pose a dire threat; instead, they regularly faced a compelling set of arguments which urged their participation. Charles W. Parsons, writing the 1856 report, inserted a six-part justification of registration, mentioning

its utility in legal affairs, genealogy, life insurance and annuity calculations, historical exposition, legislative and executive action, and sanitary regulation.[62] Perhaps such arguments helped erode the resistance and inertia which stymied the early reports; by 1857, the Boston Medical and Surgical Journal could gush (in egregious hyperbole) that Rhode Island "takes the lead in our country for the completeness and accuracy of its vital and mortuary statistics," and it spared no praise for the "intelligence and industry" of the Medical Society committee which handled the task,[63] then composed of Mauran, Edwin M. Snow, and George Collins.

The discussions thus far of public health developments, from hospital construction through vital statistics registration, have featured the repeated mention of a limited number of names. The implication, of course, is that much of the initiative for these diverse efforts came from a relatively small number of men. This is borne out by a review of the first twenty-five years of Registration Reports. During these twenty-five years, from 1852 to 1877, the Medical Society committee on registration varied from three to five members, for a total accumulated membership of 112 man-years. Of this total, 109 man-years were amassed by only nine members: Edwin M. Snow (22 years), Joseph Mauran and George L. Collins (17 years each), David King (12 years), Otis Bullock (11 years), Sylvanus Clapp, Edward T. Caswell, James H. Eldredge, and Charles W. Parsons (9,9,9, and 3 years, respectively).

The pattern of authorship is similar: Parsons wrote six reports, Snow eight, and Caswell eight.[64] Furthermore, these men were the cream of Rhode Island's regular profession. All came from prominent, reputable families, and had received conventional educations at the best schools (King, Caswell, and Eldredge at Jefferson Medical College, Bullock and Parsons at Harvard, Snow and Mauran at P & S, Clapp at Dartmouth, and Collins at the University of the City of New York).[65] Thus, in addition to the trends identified earlier (see page 42), we can isolate one more: the remarkable extent to which the initiative of a few regular physicians motivated and sustained major developments in public health. And if it is possible to pinpoint any one moment which made ineluctable the impact of an individual, it was the moment in November, 1850, when Edwin M. Snow moved to Providence.

CHAPTER SIX

THE REIGN OF SNOW

If Joseph Mauran was a skilled technician of vital statistics, Edwin M. Snow was a gifted visionary. In breadth of interest and depth of commitment, in quantity of publication and quality of analysis, in the extent and variety of his encomia from near and far, Snow outshone all of his predecessors and contemporaries in Rhode Island public health.

Snow was born in Pomfret, Vermont, in 1820, to a family line which had emigrated from England in the seventeenth century with the early settlers of Duxbury and West Bridgewater, Massachusetts. His childhood was spent in Pomfret, and he was educated at private academies in nearby New Hampshire. Snow came to Providence and entered Brown at the age of twenty; an ocular disease interrupted his study, and he was graduated five years later, in 1845.[1] Following graduation, he spent two years travelling, teaching, and studying medicine independently. In 1847, he began to alternate between Manchester, New Hampshire, where he studied in the office of Dr. W.D. Buck, and New York, where he enrolled at the College of Physicians and Surgeons. He received his M.D. degree from that institution in 1849, and commenced to practice in Holyoke, Massachusetts. This did not last long; within a year, Snow married a Providence woman, Ann Pike, and in November, 1850, the couple settled in Providence.[2]

Shryock has written that early sanitary reformers were

often inspired by "moral enthusiasm of a high order," but that

> the predominance of medical men lent an objective and realistic tone to the discussions of the sanitary associations, in contrast to the romantic enthusiasms of contemporary social reformers. 3

Edwin M. Snow cannot readily be placed on either side of Shryock's dichotomy. He was both a "moral enthusiast" and a medical man, with all the requisites and habits of each. These sides of Snow are visible in very early evidence. Beginning in his late 'teens, he was a frequent contributor to newspapers, not only secular ones like the Vermont Journal and the Manchester (N.H.) American, but also such publications as the New Hampshire Baptist Register, the Spirit of the Age, and the Christian Reflector. Snow clipped his published work, and his scrapbooks are available at Brown's John Hay Library. Many of these early articles are pious rhetorical discourses and scriptural commentaries; most intriguing are the accounts he wrote of his travels, an 1843 journey through upstate New York, Vermont, and Ontario, and a long tour of the South during the winter of 1846-7. His observations often feature quantitative counts of population, churches, and physical features, along with a full complement of strident ejaculations against whiskey, slavery, and Catholics.

Snow brought his youthful ardor to Providence in 1850, and this could only have made more difficult the ensuing period of adjustment. He maintained strong ties with his

religion, joining the First Baptist Church immediately upon arriving, and continuing as its clerk for over thirty-five years.[4] At least for a time, he also held fast to his dogma; "I am in favor," he devoutly declared in 1853,

> of the most stringent laws against rum-selling that can be framed, provided they can be enforced, and have full faith in that good time, which is surely coming, when rumselling will be banished from the land. . . . 5

Yet many of his old idols were already tottering. Only two years later, bewildered by a weakening temperance movement and a chaotic political situation, he complained,

> Everything is in confusion, of a public nature, and I no longer dare to attempt to solve the riddle. 6

Moreover, Snow missed his native Vermont; for several years after his move to Providence, his letters and articles in the Vermont Journal appeared over the pseudonyms "G.M.B." (Green Mountain Boy) or "A Vermonter."

Perhaps in response to these incertitudes of creed and identity, Snow plunged into professional activities. He joined the Medical Society soon after his arrival, and served as its secretary from 1852 to 1855. He joined the Providence Medical Association in 1851 and the American Medical Association in 1853, subsequently filling nearly every office of the former. Snow pursued his statistical interests; in 1853, he published in the Vermont Journal a digest of data on that state from the 1850 census. "This has always been a favorite study with me," he wrote, and commended census data to

Vermonters, so that they might "learn the character and advantages of their own State."[7] Finally, in March, 1851, Snow was appointed physician for the eastern district of the Providence Dispensary, a charitable medical institution.[8] This position provided him with a rare opportunity to observe the ravages of cholera on the poor when the disease swept Providence during the summer of 1854. He assiduously collected statistical data, visiting numerous cases, and even circulating questionnaires to physicians.

During the following winter, Snow had time to evaluate his data, and he drew a set of forceful conclusions. Late in January, 1855, he sent to the Mayor of Providence a fourteen-page letter containing his data, conclusions, and recommendations. Several days later, he presented the same to the Providence Medical Association, and received that group's endorsement. In the absence of prior medical leadership on the matter, both the Mayor and the City Council were impressed; five hundred copies of Snow's letter were ordered printed immediately,[9] and resulted in "exciting a lively interest in local sanitary matters."[10] In May, Snow gained election to the City Council, and that body soon began to act on his proposals.

But before recounting these developments, it will be well to analyze in some depth Snow's catalytic letter, since it anticipated, in style and substance, the approach of much of his written work for the next thirty-odd years, and even

much of the approach of other public health proponents. We can identify several elements of Snow's approach.

First, there is a scrupulous presentation of quantitative data. In the 1855 letter, Snow reported the number of cholera deaths by month, age, marital status, nativity, and location, on both a raw and a percent basis, in both tabular and narrative forms. Second, these data, persuasive as they may be, were not permitted to tell the whole story. Snow readily resorted to pathetic anecdotal accounts like the following:

> There is a certain crowded and filthy house on Gaspee Street, 20 by 35 feet, two stories high, without any drain or sewer whatever. All the slop water and other filth is thrown on the ground by the side of the house. During the past summer, there were nine families, numbering 47 persons, in the house; and several cases of cholera occurred there, within a short time. One of the tenants kept hens, which collected their food from the slops and other filth. One day, while the cholera was in the house, fifteen or twenty of those hens died suddenly, from disease. The owner dressed them and sold them for food, and they were eaten by some of our worthy citizens who were able to buy them. Such facts need no comment. 11

In later work, Snow was not above turgid descriptive prose as well; in one account, a water spout was covered with "black, greasy filth," and led to an overflowing cesspool which was a "horribly disgusting, green, slimy mass of liquid putridity."[12] His writing continued regularly to contain a compelling, if unlikely, admixture of quantitative data and evocative drama.

A third element of Snow's approach was the citation of diverse literature and con amporary work with which he was, apparently, thoroughly conversant. The cholera letter contained a well-informed description of Boston's public health measures; later reports would draw heavily on the Reports of the British Board of Health, as well as on French government publications, periodicals like Silliman's Journal of Science and the American Journal of Medical Sciences, newspapers from New York, Connecticut, and Boston, and sanitary measures of major American cities from New Orleans to Philadelphia to Chicago.

The fourth element of Snow's written work is negative rather than positive. His reports were consistently sparse in statements of medical theory, and often as not, the theoretical statements which did appear were frank admissions of ignorance. In the cholera letter, for instance, Snow wrote of the

> universally prevalent cause which existed, probably in the atmosphere, and to the influence of which all the inhabitants of the city were exposed. We are entirely ignorant of the nature of this cause, but of its existence there can be no doubt. 13

This ignorance seemed not to concern Snow; a fifth element of his writing was the prolific manner with which he nevertheless recommended changes in policy. He believed that atmospheric influences could only be triggered by local causes, which concentrated diseases in particular neighborhoods and

which could be obviated through appropriate intervention. Two such local causes were identified in the cholera letter: the Blackstone Canal, whose "poisonous water" was "filthy as any common sewer," "saturated with vegetable matter," "highly colored," and full of dead animals "in every stage of decomposition," and whose pathogenic stench "pervaded the whole neighborhood;" and the hog-pens on Fox Point Hill, on whose filth and stench Snow blamed the cholera of that neighborhood.[14] For the former, he strongly urged an investigation, and for the latter, an ordinance removing hog-pens and prohibiting hog-keeping in stables. He went on to admonish city authorities to cleanse privies, maintain sink spouts and drains, and conduct house to house visitations. There was more; he proposed the appointment of a medically qualified Superintendent of Health with broad authority, and the creation of a permanent municipal health apparatus.

A sixth feature of Snow's writing was the twofold nature of his appeal for his reader's support. On the one hand, he spoke to reason, by working slowly through his logic, from statistics and controlled variables, to correlations and local causes, to proposed remedies and consequent benefits. But on the other hand, his work is replete with stern moral injunctions, insinuative comparisons with other localities, and, as mentioned above, shock tactics. The cholera letter concluded grandly that "it is worse than folly, it is positive guilt, to refuse or to neglect" needed

sanitary reform.[15]

Seventh, and finally, Snow tenaciously emphasized that sanitary violations led to a variety of preventable diseases, and that undue attention to one disease was narrow-minded and misleading. In the cholera letter, he noted that "a large number of the . . . /past year's/ deaths from Cholera Morbus, Dysentary, Diarrhoea, and Cholera Infantum, were from the same causes."[16] Years later, he would complain that

> we fret ourselves greatly, and strive to turn the world upside down about a disease that only appears at long intervals, and is comparatively of slight importance, while we take no special heed of diseases which are with us every year, destroying hundreds of lives. 17

Snow's battle was clearly not with a particular disease, but with a way of life which he considered dangerous and irresponsible. As sober statistician and as zealous evangelist, he began in 1855 to fight this battle vigorously.

During the cholera epidemic which inspired Snow's letter, the Providence Board of Aldermen, chaired by the mayor, had functioned ex officio as the Board of Health; it was just such untrained, amateurish efforts which Snow abjured. The first signs of improvement came in July, 1855, six months after Snow sent his letter to the mayor, and two months after his election to the City Council. In that month, a Board of Health office was established, and Snow, by his own designs, was appointed City Registrar of Births,

Marriages, and Deaths. Based in the new office, he immediately set to work conducting census of the city.[18]

In August, the Board of Aldermen, again acting ex officio as the Board of Health, passed "An Ordinance respecting Quarantine," and appointed Snow Health Officer at Quarantine.[19] He was required to inspect every incoming ship, to record its origin, stops, cargo, population, and health status, to supervise, if necessary, its disinfection and cleansing, and to make weekly reports to the Board of Aldermen. Snow, however, was concerned more with sanitary improvement than with quarantine, and he frequently decried the contagion doctrine. Consequently, he devoted little energy to the quarantine post.

As the summer drew to a close, Snow again considered the cholera problem, and in November, he delivered to the Board of Aldermen his second major report on the subject.[20] Snow's tone was confident, determined, and realistic; he hoped to allay the general alarm aroused by cholera. He deprecated the journalistic preoccupation with the disease, the popular advocacy of the contagion doctrine and of tighter quarantines, and the burgeoning dissemination of home remedies. "It is a well established fact," counselled Snow,

> that when the cholera is present in a community, fear does exert a positive and direct influence, and actually produces the disease in individuals who, without fear, would not have it. 21

As an alternative, he propounded a season-by-season preventive

program, involving public education and thorough sanitary measures, to avert an epidemic during the following summer.

During these years, a firm working relationship was developing between Snow and his constituency. He energetically demonstrated to the city that he was willing and able to manage its efforts at sanitation and registration. As his credibility was cemented, he received increasing amounts of responsibility and approbation. In return, as the following change demonstrates, Snow compromised some of his youthful absolutism. In 1854, he had written this distinctly misanthropic assessment of Rhode Island politics:

> We are drawing near the close of the first year of the reign of Democracy in this State, and if there is any confidence to be placed in the intelligence and virtue of the people, it will be the last. 22

But such sentiments faded as Snow came rapidly to appreciate the necessity of collective efforts at public health. By 1859, he actively opposed compulsory vaccination, arguing that "our people are . . . jealous of personal rights, /but/ the greater portion of them are prompt to respond to appeals to their good sense," and handily turning to such alien quarters as the Catholic Bishopric for help in disseminating these appeals.[23] In the mid-1860's, he went so far as to publish a series entitled "Tracts for the People," identifying local causes of disease and providing household sanitary hints.[24] In short, Snow learned that effective sanitary reform was better served by grass-roots persuasion

than by imperious polemics.

As this realizat on dawned, Snow's relations with the public steadily improved. When the census of July, 1855, was published in the following April,[25] the Providence Journal lauded its "great thoroughness and completeness" in a front page editorial. The Journal declared that the census was "more complete than any which has before been taken in this country," and, in a move which must have gratified Snow immensely, concluded that the data ought

> to suggest the obligations which rest upon the community to see that all judicious care be taken for the health . . . of a population so heterogeneously gathered from the different parts of the world.

That April, Snow expanded the scope of his activities still further by undertaking the smallpox vaccination of Providence schoolchildren through the Board of Health office.[27]

With these developments under his belt, it was no surprise that Snow was appointed Superintendent of Health when that post was created in July, 1856. The Board of Aldermen assigned him general authority for the city's health, much as he had requested in his November report. He was to attend the Board of Health office and maintain a complaint book there, investigate sources of illness and violations of health codes, endeavor to ascertain and remove causes of epidemics, and make reports.[28] The post was tailor-made for Snow, and he discharged his new responsibilities with zealous gusto.

In January, 1857, in his capacity as City Registrar, Snow began publishing monthly and annual returns of births, marriages, and deaths in the Providence Journal. He continued an innovation he had introduced in the 1855 census, reporting the nativity of subjects' parents as well as the nativity of subjects themselves. As Superintendent of Health, Snow busily attended to his diverse tasks, and issued his First (and only) Annual Report in August.[30]

The Superintendent's Report was similar in content and structure to the cholera letter of 1855, but went further in several respects. Snow specifically identified the three worst sanitary nuisances as cesspools and sink drains, privy vaults, and swill and house offal. To remedy these problems, he outlined an array of approaches, ranging expertly in method from civil engineering to legislation. He called for improvement in water supply, housing, burial practices, slaughterhouse and factory regulation, sewage disposal, and food quality.

And so on, through the '50's, '60's, and '70's. Snow's efforts seemed tireless, the variety of his concerns unlimited. During outbreaks of smallpox and cholera, he frequently visited every affected house. He fired off dozens of reports to the Board of Aldermen concerning offensive slaughterhouses, swill and house offal, every imaginable health problem. He vigorously promoted vaccination, proselytizing at the skeptical and repeatedly establishing

its efficacy with statistical arguments. He argued for regulations against spoi.ed food and adulterated milk. He dispensed opinions on matters of architecture, transportation, recreation. He compiled a Registrar's Report every year. As time went on, governmental programs of public health gained a higher and higher profile, and it would be difficult to overestimate the magnitude of Snow's guiding influence.

During these years, Snow continued to attract acclaim from local sources. The Providence Journal, faithful as always, supplemented the monthly Birth, Marriage, and Death Reports with warm approbation. To the General Advertiser, Snow was an "efficient and esteemed public officer" who compiled statistics in a "complete, systematic and scientific manner" and who acted "wisely and faithfully" in combatting disease.[31] Governor Anthony exclaimed in 1860 that

> No man in the country stands higher than Dr. Snow in the important science to which he has devoted so much study and observation, and in which he has rendered invaluable service to the health of the city. 32

Edward Caswell, a fellow physician, wrote that "There is no city in the Union where the system of registration is carried to a greater perfection than in our own," and directed "all praise to Dr. Snow for the accomplishment of so great a task."[33] As the praise poured in, Snow was able, [illegible] to implement changes which he felt necessary.

But Snow's involvement and renown were not limited to Providence, or even to Rhode Island. He quickly became well known in national circles as a sedulous statistician and a devoted sanitary reformer. His first national exposure came in 1857, when he attended the Quarantine Convention organized by Dr. Wilson Jewell of Philadelphia. This gathering became the prototype for a series of Quarantine and Sanitary Conventions, held annually until the Civil War intervened in 1861; Snow was one of the few members who attended all four Conventions.[34]

The Philadelphia Convention of 1857 reached what the Providence Journal called a "wise conclusion," that "internal sanitary precautions are more valuable than regulations against communication,"[35] and changed its prime focus from quarantine to sanitary reform. This, of course, reflected an approach Snow had favored for years. By the time of the 1859 Convention in New York, Snow was recognized and respected by his colleagues. Attending the grand banquet at the Metropolitan Hotel along with Joseph Mauran and Providence Mayor Rodman, Snow heard the host, New York Mayor Tiemann, rise to offer a toast to "Providence--Her success in preventing disease, and preserving the health of her people, justifies the name she bears."[36] At the 1860 Convention in Boston, Snow spoke at length on methods of improving marriage registration.[37]

Although the War pre-empted the 1861 Cincinnati convention, it did not extirpate interest in nationwide public health collaboration. In April, 1872, ten men from five cities and as many states gathered informally at the New York Hotel, and formed the American Public Health Association. Present at that meeting were such notables as Dr. Stephen Smith of New York, Dr. H.I. Bowditch of Massachusetts, and Dr. John S. Billings of the Army Medical Service.[38] Of the ten, Snow was the only veteran of all four pre-war conventions. He began as the Association's vice-president, and assumed the presidency in 1875-6.[39] In addition to his activity in national public health circles, Snow was internationally known. In 1872, he was the United States delegate to the International Statistical Congress in St. Petersburg,[40] and he was subsequently awarded by the Emperor of Russia for his work as sanitarian and statistician.

But for our purposes, the municipal, national, and international spheres of Snow's influence are less important than his state-oriented activities, for these constitute the direct link between Snow's work and the formation of the State Board of Health. There is more than ample evidence that Snow's abilities and interests were prime movers in Rhode Island public health.

Snow's earliest affiliation on a state level was his membership in the Medical Society. As was mentioned

earlier, he joined in 1850 and served as Secretary from 1852 to 1855. An active participant, Snow read many papers before the Society, and served as its President from 1876 to 1877. Through his membership, he associated with colleagues of like interests, and exchanged information and advice with them. In 1857, for example, Snow published a long analysis of the state's Third Registration Report, the work of Charles W. Parsons.[41] Two months later, Parsons, in turn, published his own analysis of Snow's Second Annual Report on the Births, Marriages, and Deaths of Providence.[42] Each individual was clearly familiar with the work of the other.

In fact, few people were more consistently informed than Snow about state registration returns. He sat on the Medical Society's Committee on Registration for a total of twenty-five years, frequently as chairman,[43] and wrote eight registration reports. An indication of Snow's impact on this last process is a remorseful disclaimer which Edward Caswell included in his Sixteenth Registration Report, the successor to six consecutive Snow-authored reports. He lamented that

> the preparation of this report has fallen into less skilled hands than those that previously engaged in the task. We trust that another year will find Dr. Snow able to continue these valuable documents which have done him such great credit, and achieved for the state the honor of having most complete and instructive reports upon registration. For ourselves, we have aimed only to follow in his footsteps, and to carry out the system which he has elaborated. 44

Snow supplemented this registration work with census supervision. He was Superintendent of the State Census in 1865, prompting the Providence Journal to editorialize thus:

> The whole business was very wisely. . . placed in the hands of Dr. Edwin M. Snow, the Registrar of the City of Providence, whose thorough acquaintance with social statistics, and whose skill and experience in collecting them, have secured for him a national reputation. 45

He performed that function again in 1875, and in 1880 was Supervisor of the District of Rhode Island in the Tenth United States Census. Snow was no stranger to statewide statistical and sanitary activities.

Nor was the state ignorant of Snow's expertise. In 1874, the Village Corporation of Manville, concerned about local health problems, requested that he investigate smallpox in that vicinity. His published report of the investigation verified the reputation which had attracted the people of Manville; it demonstrated a thorough familiarity with health conditions throughout the state.[46]

So it comes as no surprise that Snow was a telling influence on the formation of the State Board of Health. He had long been interested in such developments; as early as 1868, he applauded New Jersey's Governor Ward for recommending the establishment of a State Sanitary Commission.[47] And as an officer of the American Public Health Association, Snow had helped lead that group's promotional campaign in the same direction. At its formation, the A.P.H.A. had

established a standing Committee on State and Local Sanitary Organization. In January, 1875, that committee submitted to the Executive Committee a model bill entitled "An Act to Establish a State Board of Health and to Assign Certain Duties to Local Boards of Health."[48] But even earlier, in 1874, the Association had publicly urged every state to create a Board of Health. Snow's presidential address in 1876 indicated the optimum composition of such Boards; he maintained that much of the Quarantine and Sanitary Conventions' work had been "practically rendered useless" by the "influx of ex officio Boards of Health composed of politicians and others entirely ignorant of sanitary science,"[49] and advocated the inclusion of medical personnel.

But it was the International Medical Congress of 1876 which triggered the Board's formation. The Congress had adopted a resolution which was circulated to all state governors, urging the establishment of state Boards of Health.[50] Governor Van Zandt referred the resolution to the Joint Committee on Executive Communications, and a member of that committee, Dr. Charles H. Fischer, prepared a report. Fischer was a regular physician, a member of the Medical Society and of the American Public Health Association. He had studied medicine at Harvard, Dartmouth, and the University of New York, and was active in medical and political affairs in Rhode Island.[51] Fischer's report was wordy and repetitious, with none of the conceptual clarity which characterized Snow's

writing, and the only subsequent mention of it appears to be in Fischer's own writings as Secretary of the Board of Health. In the report, the Board was justified primarily on economic grounds, through a series of somewhat spurious calculations of lost worktime due to disease and premature death.[52]

Fischer pushed on somewhat precipitously, and on the last day of the Senate's May, 1877 session, as "the result of a sudden impulse," (as he described it) he proposed a bill to establish a State Board of Health.[53] It was a busy day, and the bill was referred to the Committee on the Judiciary for a summer hibernation. During the January session of 1878, the bill came up as unfinished business, and was transferred to the House Committee on State Charities and Corrections. That committee conferred with Fischer, a committee of the Providence Medical Association, and, of course, Snow, and framed a new bill. It was the new bill, slightly altered, which passed in April.[54]

The "Act to Establish a State Board of Health" defined a six-member board, of whom at least three were to be "well educated physicians and members of some medical society incorporated by this state." In addition, the Board was to elect a "well qualified physician" as its Secretary. Its members were required to

> make investigations into the causes of disease, and especially of epidemics and endemics among the people, the sources of mortality, and the effects of localities, employments, conditions and circumstances on the public health, and. . .

> faithfully /to/ do all in their power to ascertain the causes and the best means for the prevention of diseases of every kind in the State.

The Board was to disseminate sanitary information to the people of the state, serve in an advisory capacity to the General Assembly, manage the registration of vital statistics, and supplant the old Board of Cattle Commissioners.[55]

Of the original six members, four were physicians. David King, the president, was a prominent Newport practitioner. He had studied at London, Paris, and Dublin, and taken his M.D. degree at Jefferson Medical College. The son of a former Medical Society president, he frequently held that post himself, and helped found the American Medical Association.[56] Albert G. Sprague, also a Jefferson alumnus, had a prominent practice in Warwick, was a Medical Society member, and was president of the Kent County Medical Society.[57] George W. Jenckes, a Woonsocket practitioner, was a Medical Society member, as was, of course, Charles Fischer. William T.C. Wardwell, of Bristol, was a wealthy merchant, banker, and politician.[58] And Elisha Dyer Jr., member of a prosperous mill-owning family, was a young chemist in 1878, who would later become Governor, State Senator, and Mayor of Providence.[59] The Board, then, contained few stars, but was full of solid, respectable members of the Rhode Island "establishment."

Whenever health becomes a concern of the political process, a number of questions arise. In the case of the

Board's formation, two a e especially salient. First, why was the Board formed at all? What enabled its proponents to introduce health into the arena of public, political issues? And second, given a pluralistic medical setting, how did the regulars come to be the executors of state public health? The remainder of this thesis will attempt to frame answers to these two questions.

CHAPTER SEVEN

THE LEGISLATION OF PUBLIC HEALTH

As we have seen, the formation of the Board of Health was anything but a political hot potato; an apter metaphor would probably be jello ("There's always room for. . .") or syrup. During the early and mid-nineteenth century, at least five broad developments contributed to the expediency of the Board's 1878 formation.

One such development was the pattern of increasing government involvement in matters which had traditionally been left in private hands. As industrialism took hold, the concentration and standardization of human affairs gave rise to an anonymous, impersonal social system. Subjective constraints were less and less effective, and the notion of personal responsibility took on limits; government intervention became necessary to maintain control. In the words of one historian,

> The history of government intervention is thus a history of the growing ineffectiveness of private conscience as a means of social control. 1

In fact, the basic conception of the role of government underwent a change. No longer did the state function minimally, attempting only to preserve an environment in which Jeffersonian man could carve out his fortune. In the 1837 Charles River Bridge decision, Chief Justice Taney defined a different view. "The object and end of all government," he opined, "is to promote the happiness and

prosperity of the community by which it is established."[2] Here was a clear mandate for positive government action in education, health, and social services.

The mandate was heeded in the field of health. As early as 1832, when cholera swept the United States, the struggle against it in most big cities was carried out almost entirely by municipal authorities. This was unavoidable, writes one modern observer;

> American cities were no longer hypertrophied villages, and their governments had begun to assume the powers necessary for dealing with the problems which their growth had made inevitable. 3

Even compromise measures sometimes failed; New York City attempted unsuccessfully for years to hire private contractors to clean its streets, and could not perfect an arrangement even by the time of the Civil War.[4]

The trend was similar in Rhode Island. Legislation during the first half of the nineteenth century reflected growing government regulation of, and activity in, issues ranging from food to transportation, from business to construction. The Providence city government had to undertake the removal of swine and house offal since collection by private contractors was riddled with theft, illegal sales, and inefficiency.[5] Industrial discharges had to be regulated; so did hog-keeping in the city; so did milk production.[6] In crowded urban conditions, the ramifications of processes like these could not be ignored, and voluntary self-control simply

did not suffice. As a result, the idea of a state agency to manage health affairs was either alien nor objectionable by the time of its 1878 consideration.

A second supportive development was the growth of a "natural law" tradition in nineteenth century thought, with extensive moral and legal implications. The natural law tradition had ancient roots in Platonic and Judaeo-Christian thought, and found eloquent expression from Aristotelian hierarchy down through Darwinian evolution. It was readily incorporated into American economic thought, both agricultural and industrial:

> The basic economic conception, which Adam Smith shared with Jefferson, was of a "natural order" of things that, once cleared of monopolistic clogs, would function to the greatest good of the greatest number. 7

The discovery of social and behavioral mandates in a perceived natural order took many forms in Rhode Island. The transcendentalists of the 1830's and '40's longingly searched for a moral and mystical significance in nature.[8] Jacksonian Democrats, more pragmatically, conceived of a natural order which included the "right of a workingman to the full proceeds of his labor."[9] And so on.

Charles Rosenberg has traced the development of this tradition with respect to cholera. In 1832, he writes, a fairly animistic view predominated:

> The pestilence was an inevitable result of man's failure to observe the laws of nature. Man has free will, and when he fails to observe these laws, brings inescapable

punishment upon himself. 10

But by 1866, sound sanitary practices had been identified, and a more mechanistic conception took hold, providing objective action-guides. Cholera came to be viewed as an autonomous divine retribution, "an automatic governor upon man's passions and indiscretions."[11] Thus, the New York Times in 1866 could preach that "Cholera is especially the punishment of neglect of sanitary laws; it is the curse of the dirty, the intemperate, and the degraded."[12] And nearly ten years earlier, the Providence Journal had voiced an identical enjoinder:

> Pestilence, with all its horrors, is a polite visitor, and seldom comes when it is not invited, and where the door is not left wide open. Now is the time to guard our city against any such invitation. . . . the work requires the cooperation of every citizen, both in keeping his own premises in unexceptionable order, and in giving notice to the Physician of those who are poisoning the air that their neighbors breathe. 13

Such regularities, and consequent mandates, did not only appear in connection with cholera. At the 1868 opening of the Rhode Island Hospital, Professor Gammell warned that

> Its efficiency and success as a place for the treatment of disease, must depend on the careful observance of a multitude of delicate but indispensable laws. 14

Here, then, we have it. If immutable laws govern the occurrence of disease, and if the observance of these laws is a matter of personal commitment, then there arises a moral obligation to one's community--enforceable by law, if need be-

to behave prudently. But disease prevention was not the only issue; much more was involved. As Snow explained in a section of his Superintendent's Report entitled "Moral Effect of Sanitary Measures,"

> The relation of sanitary measures to moral reform, is a subject of no trifling importance. . . . the morals of a people depend in a great measure on the comforts of their homes. A population living in low, cellar tenements, is apt to be proportionately low in its morals. The effect of crowding many persons into small tenements and into a common sleeping room, is destructive of good morals, and a bar to all religious improvement. 15

And if this awful empirical threat were not enough, the existence of sanitary laws defined a simple, direct gospel:

> Pure air, pure water, and sunlight, are indispensable to health, and every human being has an inalienable right of property in them. 16

In short, the natural order was seen to present to humans a set of proper behavioral norms. Sanitary reform thus entered the domain of traditional governmental concern--proper behavior--and the Board of Health made a great deal of sense.

A third expeditious development, like increasing government involvement a product of industrial complexity, was the growing tendency to rely on "experts." As functions became more specialized, and as knowledge became more abstruse, individuals tended to relinquish the performance of tasks which had previously constituted popular lore.

The rise of professionalism, especially in medicine, supported this tendency as physicians played on the following theme:

> Who would employ a blacksmith to repair a watch, a barber to shoe a horse, a ship-carpenter to make bonnets, or a milliner to build a church? Or who would send a son to a dumb man to learn elocution, or to one born deaf to be taught music? And yet it is quite as reasonable and philosophical to do one of these things, as to expect that the human system whould be repaired by one who knows nothing of it. 17

This appeal was a pillar of Edwin Snow's thought, and many regular physicians in Rhode Island concurred. Writing on milk adulteration, Snow maintained that

> Few of our citizens are capable of rightly estimating the cost of producing milk. The universal testimony of the farmers themselves, on this point, ought to have some weight in deciding the question. They, of all others, are the best capable of judging. 18

Advising the General Assembly on the sanitary effects of filling the Cove Basin, Snow deemed it "extremely desirable" to seek the opinion of the U.S. engineer. "It seems to me impossible," he wrote, "for the General Assembly to act intelligently without full information upon this point."[19] And in terms of medicine itself, recall Snow's message to the A.P.H.A. (see p. 70), or consider Charles W. Parsons' description of the ideal Superintendent of Health:

> Such an officer ought to be a man medically educated. The amount of study and information for the faithful performance of these duties is obviously very great. 20

Such sentiments made physicians willing, and even anxious, to assume the responsibilities which the public was abrogating. Thus, in the increasing reliance on "experts," there lay both a medical and a popular impulse to form such bodies as the State Board of Health.

A fourth development which promoted the development of public health was the rise of powerful political interests which had a great deal to gain from a healthy population. Snow was quick to remind industrialists that sanitary reform was "in accordance with the dictates of the strictest economy,"[21] and argued that "a large expenditure for sanitary measures in the city of Providence would prove to be actual economy for the city."[22] Indeed, the owners of mills and factories stood to benefit from steady attendance and high productivity among their employees. As long as the allocations for health measures seemed moderate, industrialists would continue to lend their support.

This is related to the final, and most significant, aspect of public health, which eased its insertion into the legislative agenda. Health was not a disruptive or objectionable reform. In a sense, the creation of the Board of Health can be seen more as an instance of value continuity than as a remarkable change; "municipal and personal hygiene were goals well within the canon of traditional Protestant values,"[23] and when applied to modern conditions, they were appropriately expressed by the Board of Health. In fact,

sanitary measures provided a convenient, if minor, rallying point, in a turbulent p< .itical world. "Cleanliness, drainage, ventilation, and pure water were goals that could be endorsed by the most moderate."[24] This was not the stuff of which political confrontations are made.

We have several indications that health was a rather innocuous political issue. One is financial. The Providence city budget for the year ending September 30, 1865, ran well in excess of $400,000. Of this total, city bond interest took $81,000, the police department $85,000, road maintenance $45,000, public lamps $40,000, and the fire department $43,000. And despite Snow's acknowledged authority and an impressive ten-year record,

> the salary of the Superintendent of Health, collecting and recording births, marriages, and deaths, all hospital and quarantine expenses, medicines, vaccinations, coroners inquest, burial of bodies, removal of private offal from the city, and all other expenses pertaining to the health of the city

were allotted only $3500.[25] Less than a tenth of a percent was hardly an onerous burden. Similarly, the "Act to Establish a State Board of Health" carefully stipulated that only the Board's Secretary could receive a salary, and that not to exceed $1200.[26] Clearly, public health was not financially burdensome.

The political leverage of health is also demonstrated by how it fared when pitted against powerful opposing claims.

The obvious example is the Cove Basin controversy. Briefly, a number of financial interests in Providence joined with several railroad companies, and proposed to fill in the Cove Basin, a tidal basin north of the Providence Harbor, and to build a new railroad terminal on the site. Snow stubbornly insisted that the basin was essential to the city's health, and for nearly twenty years he prevailed. But in 1883, as a result of his objections, he was abruptly dropped from the post of Superintendent of Health, and a year later the Basin was filled.[10] Public health demands, it seems, could be satisfied, but only until they seriously challenged more potent political interests. In a word, public health programs made their greates strides when they were most innocuous and least disruptive. The State Board of Health was certainly not a disruptive innovation.

We have identified five aspects of public health which facilitated its legislation: a background of growing government involvement in many aspects of life, the growth of a "natural law" tradition with moral and legal ramifications, a background of increasing reliance on "experts," the encouragement of vested interests, and the nondisruptive, unobjectionable nature of the changes which occurred. Given a situation in which the Board's formation was thus facilitated, in which, indeed, a wide spectrum of public health became amenable to legislation, we must next ask why it was that the regular physicians evolved as the medical executors

of this social trust.

CHAPTER EIGHT

THE RISE OF THE REGULARS

Two fairly simple explanations for the "victory" of the regulars are initially available. One grows out of a progressivist view of medical history, and the other out of a Marxist view.

The progressivist view is common in conventional medical history, as represented by writers like Shryock, Rosen, Ackerknecht, Singer and Underwood. With the partial exception of Shryock, these writers are concerned only to illuminate direct antecedents of modern medicine, and they view the history of medicine as a more or less steady onward march toward the "correct" therapeutics and theory of today. Robert Merton has defined "adumbrationism" as "the denigrating of new ideas by pretending to find them old;"[1] progressivist historians of medicine tend to commit a symmetric error, apotheosizing old ideas by construing them as forerunners of new ones.

By this interpretation, the regulars gained the upper hand through sheer scientific superiority over the irregulars; those who were right (read "like modern doctors") inevitably supplanted the wrong-headed quacks. There is a certain value to this explanation, since a successful practice or a verifiable idea will naturally outlast an obvious falsehood. But it cannot completely explain the state's reliance on regulars when legislating public health in the 1870's, since regular medicine did not

experience significant progress in bacteriology until years later.

In the early 1850's, Dr. John Snow, of London, had demonstrated the contagion of cholera through contaminated water and through the excreta and vomitus of patients. Max von Pettenkoffer, in 1855, appended Snow's theory with the claim that vomitus and excreta only become virulent after fermenting in ground water. This, of course, implied preventability through disinfection. By the 1860's, many American doctors were convinced that cholera was transmissable;[2] but Edwin Snow, despite an exposure to von Pettenkoffer's ideas at an A.P.H.A. convention in 1873,[3] continued to base anti-cholera efforts in Rhode Island on the "notion then prevalent that the removal of filth is the one all-powerful method of combatting infection."[4]

It was not until about 1876 that Pasteur and Koch, in their anthrax research, met Jacob Henle's exacting restrictions of disease causality, showing both the invariable presence and the potency of microbial forms in allegedly contagious material.[5] By 1882, when Koch announced the isolation of the tubercle bacillus, Pasteur had developed inoculations for fowl cholera, anthrax, and swine erysipelas.[6] Soon thereafter, Koch discovered the cholera "comma bacillus" and Pasteur administered the first rabies inoculation.

By the late 1870's, these developments began to reach Rhode Island. At least one local physician, Robert

F. Noyes, advocated germ theory over spontaneous generation, and Edward T. Caswell used "all the precautions of Listerism" in his surgery at Rhode Island Hospital.[7] Elsewhere in the hospital, in 1882, Charles V. Chapin set up the state's first bacteriological laboratory, and attempted unsuccessfully for years thereafter to isolate the causative organism of gonnorhea.[8] In 1888, Dr. Gardner Swarts established another bacteriological laboratory in Providence, and used it to study typhoid.[9] But such efforts marked their proponents as mavericks, even within the profession; in 1885, a group which included Chapin became disgusted with the unsophisticated dialogue of the Providence Medical Association, and left to form the Providence Clinical Club.[10] Clearly, the onset of modern science among the regulars occurred haltingly and late. The progressivist view is thus considerably weakened, since the regulars cannot be credited with technical superiority during the years preceding the Board's formation.

It is on this fact that the Marxist interpretation builds its case. Ehrenreich and English emphasize that the regulars "had nothing to recommend them over the lay practitioners," who were "undoubtedly safer and more effective."[11] Moreover, they argue that the "Popular Health Movement," although "usually dismissed in conventional medical histories as the high-tide of quackery and medical cultism," was in reality the medical front of a laudable

lower-class social upheaval.[12] Finally, they depict the rise of professionalism a the product of a deliberate conspiracy among elite, upper-class regulars.

This approach is initially attractive. As Ehrenreich and English point out, there is more to professional status than technical superiority. Elliot Freidson elaborates on this point:

> A profession attains and maintains its position by virtue of the protection and patronage of some elite segment of society which has been persuaded that there is some special value to its work. 13

Indeed, all indications are that the regulars deliberately and consciously sought to cultivate their professionalism, in every sense of the word. Worthington Hooker was surely thinking about more than education when he wrote the following passage:

> The most important lesson which needs to be learned by the community is in relation to their duty of sustaining the medical profession. It is obviously as true of medicine, as it is of any other science, that its advancement can be best promoted by securing for the work of its investigation a well educated body of men. And any encouragement which is accorded to quackery in any form, or to any sect which comes out in opposition to the regular profession, tends to defeat this desirable object. 14

And J. James Ellis, in his 1860 Annual Address to the Medical Society, suggested an avenue to Hooker's goal:

> Gentlemen, we have at last come to appreciate and to appropriate to ourselves the virtues of that unseen, associative force. . . simple contact; and there is that in it which . . . can develop. . . grand results for the

> professional world. . . . /It/ must inevitably tend to dev lope /sic/ us and strengthen us, and rai e us in the scale of relative professional importance in the eyes of that public. . . . 15

In the same spirit, Usher Parsons, one of the Medical Society's grand old men, exhorted the American Medical Association in 1854 to be "one harmonious fraternity," and to take

> such measures as will promote and perpetuate among ourselves an esprit du corps, a conformity of sentiment and feeling, and a combination and cooperation in action. 16

There was a manifest effort among the regulars to achieve such "combination and cooperation" in the struggle for professional status.

As they carried on this struggle, the regulars utilized several themes in addition to the comradely advantages of esprit du corps. One was a respect for European medicine, which contrasted with the defiant Yankee independence of many of the sects. In 1856, C.W. Fillmore read to the Medical Society a paper "descriptive of the great schools and celebrated teachers of our Art in Paris, Vienna, and Berlin;"[17] his audience contained several graduates of those schools. A second theme was the esteem in which the regulars held education, a somewhat vacuous esteem since many accredited medical schools were as devoid of standards as were their irregular counterparts. Perhaps most fundamental was a third theme, the regulars'

self-proclaimed fraternity with venerable individuals and grand traditions in medical history. It must have been difficult for a Medical Society member not to swell with pride and inspiration after the following passage from Ellis' 1860 address:

> To be sure, other systems than those established on long well grounded principles, may germinate, and even attain an apparently vigorous maturity. New dogmas will ever be inculcated; and skepticism, that skepticism, it may be, generated by a life of total indifference to medical concerns, and flashing from sparkling intellects, may threaten the demolishment of this our cherished art; yet the temple of Ancient Medicine, in the erection of which we are all artificers, despite every attack upon it, will continue higher and higher to rise, with not a stone in its foundation loosened, and with every pillar perfect, till it towers to the skies. 18

The regulars, then, resorted to a variety of approaches in their quest for professional status.

But no combination of esprit du corps, conservative chauvinism, and historical reverence, could alone have insured a regular "victory." Nor were economic alliances responsible, as the Marxists claim. The distinction between regulars and irregulars, as we have seen, was not congruent with an upper-class/lower-class economic bifurcation. The irregulars gained significant credibility and patronage among upper classes, especially in connection with reform efforts, and were in many cases themselves members of eminent families. Together, these points constitute the first flaw in the Marxist interpretation

outlined above: no viable explanation is offered for the successful evolution of the regulars into a socially sanctioned profession.

A second flaw in the Marxist interpretation is its failure to account for the gradual demise of the "Popular Health Movement" following its heyday in Jacksonian times. The lower classes certainly did not cease to exist, and if they truly found satisfactory treatment with the irregulars, Popular Health should only have become more firmly entrenched. The Marxist interpretation is flawed in a third way; it overlooks the fact that the regulars did display some medical efficacy. To understand how, we must evaluate the entire scientific basis of nineteenth century medicine.

Ludwig Edelstein's description of Hellenic science is strikingly appropriate here:

> Rival systems of science were competing with one another, rival systems which were in fact rival sciences. For there was nothing one could call science in the modern sense of the term, a body of knowledge valid everywhere, a system of principles, of rules of procedure and of theories, well defined and generally accepted. . . . /It was/ almost impossible for anyone not a partisan to say what science was and what it was about, let alone to decide which of the existing systems of science should be encouraged and rewarded. 19

With a few minor alterations, this passage would nicely describe the medical setting of one hundred years ago. Dr. Thomas Nichols, in his Forty Years of American Life (1864),

captured the pluralistic chaos of the situation:

> There are allopaths of every class in allopathy; homeopaths of high and low dilutions; hydropaths mild and heroic; chrono-thermalists, Thomsonians, spiritualists with healing gifts and I know not what besides. What is worse, perhaps, is the fact that there is no real standard--no real science of medicine--no absolute or acknowledged authority. 20

This is not to say that the regulars lacked a body of theory. But the significance of their theory was double confined: it was not generally accepted as a standard, and it was for the most part wrong.

Briefly, the Rhode Island regulars, like their counterparts nationally, identified two main disease classes, zymotics and sporadics. Zymotics, named for the Greek word for "ferment," were "propogated by emanations, from the ground, from decaying animal or vegetable matter, from cases of previous disease, or from over-crowded human beings."[21] In a zymotic disease, the blood was contaminated by "some principle from without"[22] which acted "upon the body, as a ferment or leaven does upon the mass with which it is mixed."[23] All diseases not in this class were sporadics, named for the Greek word for "scattered." Individual diseases were clearly distinguished in the registration reports, but when it came to therapy, the regulars were "decidedly and uncompromisingly opposed to what are termed <u>specifics</u>; and not less hostile to the treating for a <u>name</u>."[24] Furthermore, one sanitary method was held to be universally adequate for preventing zymotics.

But this body of theory, such as it was, did not constitute an authoritative dogma, and even the regulars themselves minimized their theories. One, after defining the word zymotic, wrote, "Irrespective of the theory, the term is a convenient one, and has been considered worthy of acceptation."[25] James H. Eldredge abnegated regular theory even more broadly during a plaintive 1870 address to the Medical Society:

> Forces are operating upon us and producing their strange results that are not yet fully understood or appreciated. The exact point which a malignant epidemic will select, and the victims which it will first strike down, may be pointed out, according to our theory; but the facts do not always sustain us. 26

In short, there was no generally accepted theory of medicine, and the regulars put little stock in the theory they had.

Thomas S. Kuhn has defined a mature science as one which possesses a paradigm.[27] It has three characteristic features. First, there is a "fundamental scientific achievement" which "includes both a theory and some explanatory applications to the results of experiment and observation." Second, the paradigm is an open-ended achievement, which presents many research avenues. And third, the paradigm is "received by a group whose members no longer try to rival it or to create alternates for it. Instead, they attempt to extend and exploit it in a variety of ways." At first glance, Kuhn seems to have described

precisely the antithesis of nineteenth century medicine. There was no "fundament l scientific achievement," and in a pluralistic, fragmented setting, diverse partisans rivalled each other rather than pursue common modes of research.

But there is a bedrock of medical thought, more fundamental than Kuhnian paradigms. It grows out of the fact that medicine is not a detached science confined to laboratories and libraries; its real home is in bedrooms, in workplaces, on streets. There is a constant, unforgettable need to provide treatment to ailing patients. What results is an ongoing exchange of information between doctors and patients, which serves incessantly to subject any medical therapy of theory to the acid test of empirical validity.

The word "empirical," according to the Oxford English Dictionary, is derived from the Greek word for experience. Although it generally denotes a reliance on experience, it took on a second meaning during the sixteenth century, that of quackery or charlatanry. The word "theoretical," on the other hand, is derived from the Greek word for contemplation or speculation. A theory can be defined as "a statement of what are held to be the general laws, principles, or causes of something known or observed."

Throughout the medical polemics of the nineteenth century, empiricism was a stock insult. This is ironic; as noted above, a medical approach can only survive by standing up under perpetual experiential scrutiny. Converse

a body of medicine is doomed to failure if it is based on airy generalizations and unsubstantiated theory. Thus, the medicine which is most likely to succeed in a pluralistic conceptual competition is one which has been patiently and conscientiously built out of empirical observations (in the general sense of "empirical"). Here we have the key to a critical difference between the regulars and the irregulars; the former tended more toward cautious empiricism, while the latter tended more toward hasty monistic theorizing.

As early as the first few decades of the nineteenth century, certain elements of the medical profession were becoming disillusioned with facile system-building, and reacted with a Baconian retreat from theories toward data-gathering.[28] At that time, writes Shryock, "attitudes in medical centers became increasingly hostile to unconfirmed generalizations."[29] The result, in physiology, was a preference for description over explanation.[30]

One early and energetic foe of highfalutin theory was a Rhode Islander, Elisha Bartlett. In his Essay on the Philosophy of Medicine (1844), Bartlett emphasized "facts" and observations, to the apparent exclusion of intuition or even working hypotheses. He quoted Sir Humphrey Davy:

> When I consider the variety of theories that may be formed on the slender foundation of one or two facts, I am convinced that it is the business of the true philosopher to avoid them altogether. 31

Not even eminent regulars were immune from Bartlett's

anti-theoretical invective; he wrote of Benjamin Rush that

> in the whole vast compass of medical literature, there cannot be found an equal number of pages containing a greater amount and variety of utter nonsense and unqualified absurdity. 32

Ten years later, Usher Parsons declared that "we need to interrogate nature and experience more."[33] And few regulars were more forceful on this count than Worthington Hooker. "The profession," he wrote,

> may learn from the fantasies of Hahnemann the evils which result to science from a disposition to theorize. . . . Ingenious hypotheses have, to a very great extent, taken the place of accurate and extended observations in the past records of our science. 34

Hooker argued that professionals ought, instead, to be "men of observation. . .content to tread 'the tardy steps of induction.'"[35] He believed that each practitioner

> should learn all that he can, by watching narrowly the effects of his remedies, and by comparing his own experience with that of other reliable observers. 36

There are numerous examples. Such avowals were common among the writings of the regulars, and in fact, the display of an interest in induction emerges as the regulars' most distinguishing characteristic.

The irregulars, for their part, invited such criticism with their propensity toward building grand, monistic theories. The Thomsonians had their heat and cold; the magnetic healers their animal fields; the hydropaths, their aquatic principle. Consider the doctrinal allegiance

revealed by the Rhode Island homeopath who issued this call:

> Let us keep our eye steadfast on that bright constellation, Similia Similibus Curantur, which is the seal of our Institution and the sun of our system. 37

Moreover, some irregulars went on to attack the regulars for their reluctance to theorize. The author of the previous passage, who was a president of the Rhode Island Homeopathic Society, charged that

> The school of practical medicine, as it has been handed down to the present day, through a long line of ancestry, is unsystematized, haphazard, and unsafe. . . /It has/ no acknowledged systematic foundation. 38

And one of his colleagues, writing a rebuttal of Worthington Hooker's diatribe, agreed:

> The first, and greatest of all difficulties in the way of a defence of the allopathic practice is, that that practice is not the result of a system. There is nothing about it of method, or proportion, nothing philosophical; but the whole collection of its propositions is admitted, by its most eminent professors, to be incongruous, uncertain, and entirely without any pervading and harmonizing idea. Undoubtedly the experience of two thousand years has been prolific of facts, but no one has ever pretended, from the chaotic accumulation, to call into life an orderly, symmetrical and philosophical system, to reduce the results of experience and observation in Allopathy to a science. Homeopathy has this great advantage, that, like Minerva, it sprang into existence perfect in its grand and beautiful symmetry, as complete in its parts and orderly in its movement as that universe of which the secret flashed upon the father of astronomy like a new and infinitely sublime creation. 39

The homeopaths, and indeed, most of the irregulars, employed a similar methodology, and in so doing fell prey

to all the foibles and frustrations of deductive science at its worst.

This is certainly not to say that the regulars proceeded purely inductively while the irregulars proceeded purely deductively. Nor is this an assertion that deduction is either inherently fallacious or even avoidable. The point here is simply that, in an uncertain and confused context, a group which remains closely responsive to empirical observations will tend to develop a more efficacious and durable medicine than a group which resorts to extensive speculative theory.

We can now return to the issue of public health. By the terms of our argument to this point, vital statistics have taken on a profound new significance: they were, in reality, nothing but a set of refined empirical observations. Moreover, without resort to spurious theoretical interpretations, the regulars could use these data to derive unambiguous and effective mandates for action. With little or no theoretical support, they could still observe, and what they observed were correlations between disease and certain environmental conditions. The response was obvious: change the environmental conditions, and ameliorate the disease. This approach is clearly demonstrated in an appeal directed by Edwin Snow to the Board of Aldermen in 1867:

> . . .our ignorance of the laws which govern the progress of Asiatic cholera as an epidemic, can

> work no disadvantage in regard to the adoption of measures for the local prevention of disease.
>
> We do not know the nature and laws of the epidemic cause of cholera, by which the disease is brought to this continent, and if we did know it, the knowledge would probably be of little utility in preventing the disease; but
>
> We do know positively the local causes which tend to propagate the disease when it is here:
>
> We do know positively that these local causes can, to a great extent, be removed:
>
> We do know positively that if they are removed the epidemic cause of disease will be comparatively powerless for evil; and
>
> We do know positively that if these local causes are removed, and the epidemic cause of cholera fails to visit us, our labor is not lost. 40

The Board, needless to say, was impressed, and went on to accept Snow's recommendations.

Finally the regulars had a leg to stand on. Although nobody seemed able to help those stricken with smallpox or cholera, the regulars had demonstrated that both could be prevented, one through vaccination and the other through sanitary measures. Furthermore, they had taken some initiative in promoting these salubrious courses of action. And eventually, reinforced by public expectations and by their own perceived abilities, the regulars came to define themselves as the stewards of public health.

An interesting indicator of this development is the contrast between regulars and homeopaths in their explicit definitions of social responsibilities. One prominent Rhode Island homeopath wrote that

> The health and life of husbands, wives, and children--all that is endearing and sacred

ties--is committed to us in confidence, and asked rhetorically, How shall we meet this vast responsibility?"[41] He provided a threefold answer--knowledge of Materia Medica, knowledge of anatomy, and knowledge of pathology. But Edward Caswell, a regular answering roughly the same question, listed a different six obligations: keeping pace with scientific developments, guardianship of community health, preventive medicine, understanding the causes of disease so as to avert it, public education against epidemics, and improvement of public awareness of hygiene.[42] There are clear differences in tone and substance between the two approaches; the regulars had defined a medical program which was both efficacious and socially oriented.

The other side of the coin is the social reaction to this definition. Considering the relative success of sanitary measures, the public had virtually no choice but to conclude that "the only real contribution of medicine to civilization was the sanitary and hygienic regulations it had helped institute."[43] This led both to a continuing support for sanitary reform, and to increased confidence in the regulars, essentially reinforcing the two already active trends.

We have thus pitched a tent between the Marxist and progressivist camps. Without a doubt, the regulars deliberately endeavored to gain professional status, and they were

aided by their respectable backgrounds and by their connections in the General Assembly. But the real determinant of their success lay with the initiative of a few leaders, who steered them on a fortuitous course of statistical study. This course led to an active concern with sanitary reform, and ultimately, to a medical program which was both effective and socially oriented. The irregulars, in the meantime, were left stranded in the blind alleys of excessive theorizing. And so, when it was time, in 1878, to form a State Board of Health, there remained little question as to who would provide the medical leadership.

CHAPTER NINE

CONCLUSION

A number of broad conclusions can be drawn from the foregoing history.

First, and most generally, developments in health policy appear to have been profoundly dependent on more basic historical forces. In the case of Rhode Island, the mandate came from the composite of technological, economic, and demographic changes we have come to call the Industrial Revolution.

A second, and related, conclusion, grows out of the value continuity which informed apparently radical changes in the state's involvement with public health. More than anything, this continuity permitted, and facilitated, the changes. There is an important lesson here for those who are attempting to export modern technological medicine to underdeveloped areas of the world.

A third, and final, conclusion concerns the nature of scientific change. What seems ultimately to determine the survival of a practice is its empirically demonstrated efficacy. A theory repeatedly unable to account for observations, a method which repeatedly fails, a tool which repeatedly produces no results, will all be replaced in due time, when more successful versions appear. Medical care unquestionably plays a ritualistic role in social life, but even the components of this ritual must

prove themselves empirically.

A NOTE ON THE SOURCES

The Rhode Island Medical Society published its first volume under the title Communications of. . ., and subsequent volumes were entitled Transactions of. . .. Within the first volume, distinctions between specific numbers are extremely ambiguous. In most cases, I have used the year from which a specific event is recorded, and not the year interval covered by each number.

The two best sources of biographical information on Rhode Island doctors of the nineteenth century are the obituaries published by the Society, and Representative Men and Old Families of Rhode Island.

All sources used here are from the Brown libraries, either the circulating collection or the John Hay collection, unless otherwise noted in the bibliography.

I have used the following abbreviations in notes and bibliography:

Com RIMS	Communications of the Rhode Island Medical Society
Tr RIMS	Transactions of the Rhode Island Medical Society
Bul. Hist. Med.	Bulletin of the History of Medicine
RIHS	Rhode Island Historical Society
RIH	Rhode Island Hospital
RIMSL	Rhode Island Medical Society Library
R.I. Med. J.	Rhode Island Medical Journal
R.I. Hist	Rhode Island History

NOTES

CHAPTER ONE

[1]See the Providence Journal of 20 February, 21 March, 9, 12, and 13 April. The House actually considered the bill during a busy session on 20 March and postponed voting for several weeks.

[2]Josiah Bowditch, "Industrial Development," pp. 323-386 in Edward Field, ed., State of Rhode Island and Providence Plantations at the End of the Century: A History (Mason Publishing Co., Boston: 1902), Vol. III, pp. 339-45; Scott A. Smith, "The Industries of Rhode Island," pp. 2528-2570 in William T. Davis, ed., The New England States (D.H. Hurd & Co., Boston: 1897), Vol. IV, p. 2533

[3]Bowditch, pp. 339-45.

[4]Bowditch, 347. Bowditch gives no sources, and his data are by no means incontrovertible. Irving Richman, in Rhode Island: A Study in Separatism (Houghton, Mifflin, Boston: 1905), at pp. 278-9, in contrast, claims that Slater's original mill, owned by the Almy and Brown Company, was still New England's lone successful operation in 1803. By 1805, Richman puts five mills within a thirty mile radius of Providence, and by 1815, he has 26,000 workers tending 171 mills in the same area. What is clear is that cotton manufacturing experienced prodigious initial growth in Rhode Island.

[5]Quoted in Smith, p. 2534.

[6]Quoted in George Rosen, "The Medical Aspects of the Controversy over Factory Conditions in New England, 1840-50," Bul. Hist. Med. 15: 483-97, 1944, p. 483.

[7]Bowditch, pp. 345-47.

[8]Smith, p. 2532.

[9]Richman, p. 279.

[10]Bowditch, pp. 351-8.

[11]Ibid.

[12]Ibid.

[13]Ibid., Smith, p. 2535.

[14]Bowditch, pp. 360-66.

[15]Ibid., pp. 377-81.

[16]Ibid.

[17]Ibid., pp. 370-77.

[18]Ibid., p. 348.

[19]Ibid., pp. 351-8.

[20]Rhode Island admirably exemplifies the shift from Eotechnic to Paleotechnic culture described by Lewis Mumford, not only in characteristic energy and materials, but in social patterns as well. See Lewis Mumford, Technics and Civilization (Harcourt, Brace, & World, New York: 1934), especially Chap. IV.

[21]Bowditch, pp. 370-77.

[22]Smith, p. 2536.

[23]Field, Vol. I. p. 328.

[24]Robert J. Taylor, "The Providence Franklin Society," R.I. Hist. 9: 73-83, 119-129, 1950, p. 123.

[25]Richman, p. 279.

[26]Field, Vol. I, p. 328.

[27]Ibid., p. 353.

[28]Ibid., p. 356.

[29]Ibid., p. 355.

[30]Ibid., pp. 320-21.

[31]Population data through 1855 are drawn from old census counts as reported in the Census of the City of Providence, taken in July, 1855, with a brief account of the manufactures, trade, commerce, and other statistics of the city; and an APPENDIX, giving an account of previous enumerations of the population of Providence, City Document No. 6, 1856. Subsequent data are drawn from Providence Journal reports as follows: 1858 (3 August, 1858), 1860 (10 August, 1860), 1875 (24 January, 1876).

[32]Field, Vol. I, p. 333.

[33]Ibid., p. 358.

[34]This political phenomenon is discussed in Larry Anthony Rand, "The Know-Nothing Party in Rhode Island," R.I. Hist. 23: 102-116, 964.

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[36]Charles W. Parsons, Report on the Medical Topography and Epidemic Diseases of Rhode Island (Collins Printer, Philadelphia: 1864), p. 11.

[37]Charles V. Chapin, "The Sanitary Administration of Cities," (unpublished manuscript, 8 February, 1889, RIMS Library), quoted in James H. Cassedy, Charles V. Chapin and the Public Health Movement (Harvard University Press, Cambridge: 1962), at p. 41.

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[1]Arthur M. Schlesinger Jr., The Age of Jackson (Little, Brown, & Co., Boston: 1945), p. 309.

[2]Quoted in Ibid.

[3]Charles W. Crowe, "Transcendentalism and 'The Newness' in Rhode Island," R.I. Hist. 14: 33-46, 1955, p. 46.

[4]____, "Utopian Socialism in Rhode Island, 1845-1850," R.I. Hist. 18: 20-26, 1959.

[5]Schlesinger, p. 339.

[6]Ibid., p. 343.

[7]Ibid., pp. 311-12.

[8]Field, Vol. I, p. 330.

[9]Ibid.

[10]Crowe (1955), p. 41.

[11]Field, Vol. I, p. 328.

[12]Ibid., p. 330.

[13]Ibid., p. 355.

[14]Ibid., pp. 330, 360-61.

[15]Ibid., pp. 360-61.

[16]Crowe (1955), p. 44.

[17]Iago Galdston, "Humanism and Public Health," Bul. Hist. Med. 8: 1032-39, 1940, p. 1039.

CHAPTER THREE

[1]Charles W. Parsons, p. 9. This enumeration is probably abstracted from Edwin M. Snow's First Annual Report of the Superintendent of Health of the City of Providence, City Document No. 5, 1857, pp. 11-12.

[2]Nelson M. Blake, Water for the Cities (Syracuse University Press, Syracuse: 1956), p. 16.

[3]Schlesinger, pp. 345-46.

[4]Information on the history of occupational health comes from Genevieve Miller's introductory essay to McCready's work, in a 1943 Johns Hopkins Press edition. Ramazzini's book, it should be noted, was published in English as "A treatise of the diseases of tradesmen, shewing the various influence of particular trades upon the state of health; with the best methods to avoid or corredt it, and useful hints proper to be minded in regulating the cure of all diseases incident to tradesmen." With a title like this, the book was probably not a best-seller.

[5]Charles E. Rosenberg, The Cholera Years (University of Chicago Press, Chicago: 1974), p. 190.

[6]Richard H. Shryock, The Development of Modern Medicine (University of Pennsylvania Press, Philadelphia: 1936), p. 222.

[7]Charles W. Parsons, pp. 2-9.

[8]____, Fourth Registratior Report of the State of Rhode Island (Providence, 1856), p. 72.

[9]Rosenberg, p. 153.

[10]See Shryock, p. 223.

[11]18 March, 1857.

[12]Snow, First Annua. Report. . ., p. 8.

[13]Rosenberg, p. 177.

[14]Ibid., p. 217.

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[1]Crowe (1955), p. 44.

[2]Ibid., pp. 42-3.

[3]Quoted in James Harvey Young, The Toadstool Millionaires: A Social History of Patent Medicines in America before Federal Regulation (Princeton University Press, Princeton: 1972), p. 45.

[4]John A. Brown, The Family Guide to Health, Containing a Description of the Botanic Thomsonian System of Medicine (B.T. Albro, Providence: 1837), p. iii.

[5]Lydia Capwell, Vegetable Medical Assistant, Prepared for the Use of Families (Albro & Hall, Providence: 1850), preface.

[6]Providence Journal, 24 April 1878.

[7]Charles Singer and E. Ashworth Underwood, A Short History of Medicine (Oxford University Press, New York: 1962), pp. 507-9.

[8]E.g. see issue of 31 May 1837.

[9]Providence Journal, 1 March 1877.

[10]"Sylvan, Enemy to Human Diseases," A Confidential Communication of the Enemy of Human Diseases (1812); Formula of Prescriptions and Various Instructions for the Service and Guidance of Those Who Have Applied, Are Applying, or Shall Apply, to the Enemy of Human Diseases (1813); (both printed in Providence by H. Mann).

[11]Quoted from Thomas R. Hazard's 1897 The jonny cake papers, together with reminiscences of Narragansett schools of former days, in Robert J.T. Joy, "The Natural Bonesetters with Special Reference to the Sweet Family of Rhode Island," Bul. Hist. Med. 28: 416-41, 1954.

[12]Joy, p. 433.

[13]Bowditch, p. 385.

[14]A brochure describing this establishment, "Medicated Vapor Bath Establishment, and Asylum, For the Sick, Conducted by A. Hunting, M.D.," (Providence, 1845) is catalogued but missing from the RIHS library.

[15]I. Barrows, M.D., "Inaugural Address Delivered Before the Rhode Island Homeopathic Society, September 17, 1851," (R. Sherman, Pawtucket: 1851), p. 17.

[16]A. Howard Okie, M.D., "An Address Delivered before the Rhode Island Homeopathic Society," (George H. Whitney, Providence: 1850), p. 1.

[17]Barrows, p. 1.

[18]Rhode Island General Assembly, Acts and Resolves (June Session, 1851), p. 33.

[19]Barrows, p. 3.

[20]Crowe (1955), pp. 42-3.

[21]Rosenberg, p. 154.

[22]Ibid., p. 222.

[23]The 1870 United States Census (Vol. I, p. 755) records 260 "physicians and surgeons" in Rhode Island, and the 1880 Census (Vol. I, pp. 784, 800, 896) records 396. Interpolating to 1877, and assuming a fairly constant growth rate, yields 355. Similarly, extrapolating to 1882 yields 423. This latter figure is probably somewhat high in light of the 1889 figure, 430. However, the 1889 data are estimates by a regular physician (see next note) and may be low. The two Medical Society membership counts are derived from membership lists bound at the end of Volumes II and III of the Medical Society's Transactions.

[24]George L. Collins, "State Control of Medical Practice," Tr. RIMS IV: 22-39, 1889, p. 37.

[25]Cassedy, p. 15.

[26]H.G. Stickney, "Address on the Relations of the Young Physician to the Profession and the Public," read before the Medical Society at its semi-annual meeting, 19 December 1860, Com. RIMS I: 85-96, 1860, pp. 88-9.

[27]Ibid., p. 86.

[28]Worthington Hooke , Homeopathy: An Examination of Its Doctrines and Eviden es (Fiske Fund Prize Dissertation of the RIMS, 1851), (Charles Scribner, New York: 1852), p. ix.

[29]Ibid., p. 144.

[30]Ibid., pp. 145-6.

[31]Ibid.

[32]Leon S. Bryan Jr., "Blood-Letting in American Medicine, 1830-1892," Bul. Hist. Med. 38: 516-529, 1964, p. 520-21.

[33]Hooker, p. 140.

[34]Gert H. Brieger, "Therapeutic Conflicts and the American Medical Profession in the 1860's," Bul. Hist. Med. 41: 215-22, 1967.

[35]At the RIMS quarterly meeting, 17 September 1873, Drs. Ariel Ballou and Thomas Newhall agreed that large doses of calomel were indicated by cholera infantum. Com RIMS I: 82, 1873.

[36]Walter L. Munro, "Early Medical History in Rhode Island and the Rhode Island Medical Society," (Privately reprinted from R.I. Med. J., July 1935, n.p., n.d.), p. 25.

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[2]Elihu S. Wing, Jr., M.D., "The Providence Medical Association," pp. 143-217 in Rhode Island Medical Society, The History of the Rhode Island Medical Society and Its Component Societies 1812-1962 (Roger Williams Press, East Providence: 1962), p. 161.

[3]William Gammell, Address at the Opening of the Rhode Island Hospital, pp. 6-26 in Rhode Island Hospital, Annual Report I, Section on Opening Proceedings, 1864-77, p. 14.

[4]Quoted in Wing, p. 161.

[5]Gammell, p. 17.

[6]Quoted in Wing, p. 162.

[7]Ibid.

[8]Gammell, p. 17.

[9]Ibid., pp. 17-20.

[10]Com RIMS I: 35, 1863. (Minutes of Annual Meeting.)

[11]Ibid., p. 36.

[12]Ibid., pp. 38, 220-26; Rhode Island Hospital Annual Report I: 7, 1864.

[13]Rhode Island Hospital, Annual Report I: 7, 9, 11, 1864.

[14]Rhode Island Hospital, Annual Report V: 9, 1868.

[15]National Convention for Revising the Pharmacopoeia, Pharmacopoeia of the United States of America, Seventh Decennial Edition, Washington, D.C., 1890 (Lippincott, Philadelphia: 1893), pp. v-xiv.

[16]Com RIMS I: 405, 1872-4.

[17]Ibid., 54.

[18]Ibid., p. 55. This was the semi-annual meeting of 15 December 1869.

[19]Rhode Island, State of, and Providence Plantations, "Law Relating to the Sale of Medicines and Poisons, In Force August 1878," (E.L. Freeman, Providence: 1878).

[20]Com RIMS I: 84, 1873.

[21]Ibid.

[22]Ibid., p. 55.

[23]Munro, p. 30.

[24]Seebert Goldowsky, "The Rhode Island Medical Society--The First Fifty Years: 1812-1862," pp. 3-40 in Rhode Island Medical Society, History. . ., p. 5.

[25]Com RIMS I: 65, 1872.

[26]Ibid., pp. 71-3, 75-6.

[27]Edward Caswell, "Annual Address Before the Rhode Island Medical Society" (Providence Press Co., Providence: 1875).

[28]Collins, pp. 29-31.

[29]Ibid.

[30]Munro, p. 30.

[31]Collins, pp. 29-31. It is interesting to note that members of the Rhode Island Homeopathic Society also spoke in favor of licensure and registration. By then, homeopathic treatment had converged with regular treatment, and homeopaths aligned themselves with professional interests. The Rhode Island Homeopathic Hospital operated under that name, in fact, until the 1940's, when it changed its name to the Roger Williams Hospital. During the period under discussion here, however, the homeopaths were still outsiders with "Spartan blood."

[32]Cassedy, p. 79.

[33]Com RIMS I: 48, 1866.

[34]Rhode Island General Assembly, Acts and Resolves (January Session, 1867), pp. 148-9.

[35]Com RIMS I: 1872.

[36]Ibid., p. 106.

[37]Ibid., pp. 90-107.

[38]Thomas H. Webb, First Registration Report of the State of Rhode Island (Providence, 1853), pp. 41-2. This report contains a thorough and painstaking history of registration procedures in the state.

[39]Ibid., pp. 42-4.

[40]Ibid., p. 52.

[41]Ibid., p. 53.

[42]Daniel Goodman (?), "A Sketch of the Life of Wilkins Updike," pp. xix-xlv of Wilkins Updike, A History of the Episcopal Church in Narragansett, ed. Daniel Goodman (1847, Reprinted privately by D.B. Updike at the Merrymount Press, Boston: 1907).

[43]Webb, First Registration Report. . ., p. 54.

[44]Usher Parsons, "Rep rt on Cholera in Rhode Island in 1849," BMSJ 42: 29-31, 1850; Charles W. Parsons, "Mortality of Providence, R.I., for the last eight years, with Tabular Arrangements of the Diseases of each year," BMSJ 42: 31-5, 1850.

[45]From his obituary, Com RIMS I: 403-7, 1872-4. Mauran was a firm believer in the preventive and curative powers of smoking tobacco. He had smoked his first cigar, he later related, at the age of four years, and at the age of seventy-two, declared, "I have smoked ever since, now about sixty-eight years."

[46]Munro, . . 26.

[47]Webb, First Registration Report. . ., p. 55.

[48]Goldowsky, pp. 30-31.

[49]Webb, First Registration Report. . ., p. 55.

[50]Providence Journal, 9 February 1850.

[51]Ibid. The speaker was Mr. Hazard of Providence.

[52]Ibid. This caveat is attributed to Mr. Buffum of Smithfield.

[53]Providence Journal, 15 February 1850.

[54]"Registration in Rhode Island," BMSJ 42: 208, 1850.

[55]Webb, First Registration Report. . ., pp. 57-61.

[56]"Registration Law," BMSJ 42: 479, 1850.

[57]Webb, First Registration Report. . ., p. 61.

[58]Ibid., pp. 61-6.

[59]Richard H. Shryock, "The History of Quantification in Medical Science," pp. 85-107 in Quantification: A History of the Meaning of Measurement in the Natural and Social Sciences, ed. Harry Woolf (Bobbs-Merrill, New York: 1961), p. 100.

[60]William G. Arnold, Cumberland Town Clerk, to Charles W. Parsons, 9 February 1856. Printed in Parsons, Third Registration Report. . . (1855), p. 77.

[61]Samuel W. Clarke, Warwick Town Clerk, to Charles W. Parsons, 14 March 1856. Printed in Parsons, Third Registration Report. . . (1855), p. 76.

[62]Charles W. Parsons, Fourth Registration Report. . . (1856), pp. 70-72.

[63]"Rhode Island Registration Report," BMSJ 56: 64-6, 1857.

[64]Data derived from Edwin M. Snow, Twenty-Fifth Registration Report. . . (1877), p. v.

[65]See "Addendum to Chapter Five Notes", p. 121.

CHAPTER SIX

[1]Brown Necrology (Brown University Press, Providence: 1889); Tr. RIMS IV: 91-6, 1889.

[2]Ibid.

[3]Shryock (1936), p. 224. Shryock is himself possessed of a "romantic enthusiasm" concerning the march of science.

[4]Tr. RIMS IV: 95, 1889.

[5]In the Vermont Journal (Windsor, Vt.), February, 1853. Snow Scrapbook, Vol. I, n.p. Snow's scrapbooks do not have page numbers.

[6]In the Vermont Journal, March, 1855, Ibid.

[7]Vermont Journal, 25 November, 1853, Ibid.

[8]Tr. RIMS IV: 91, 1889.

[9]Edwin M. Snow, "Statistics and Causes of Asiatic Cholera as it Prevailed in Providence, in the Summer of 1854," City Document No. 5, 1855-6.

[10]Tr. RIMS IV: 91-2, 1889.

[11]Snow, "Statistics and Causes. . .," p. 16.

[12]Snow, First Annual Report of the Superintendent. . ., pp. 15-16.

[13]Ibid., p. 9.

[14]Ibid., pp. 10-14.

[15]Ibid., p. 18.

[16]Ibid., p. 13.

[17]Edwin M. Snow, "Disinfectants" (Tracts for the People No. 5, Providence, 1873).

[18]Snow, First Annual Report. . ., pp. 1-6.

[19]"Quarantine Regulations, Port of Providence" (Providence, n.p.: 1855).

[20]Edwin M. Snow, "Measures Proposed for the Prevention of Asiatic Cholera in the City of Providence, A Report to the Board of Aldermen, November 6, 1865," City Document No. 8, 1865-6.

[21]Ibid., pp. 3-4.

[22]Vermont Journal, March 1854, Snow Scrapbook, Vol. I.

[23]Edwin M. Snow, "Report on the Small Pox, in the City of Providence, from January to June, 1859," City Document No. 4, 1859-60, pp. 20-21.

[24]Five of these are preserved at the John Hay Library:
"Is Asiatic Cholera Contagious?" No. 1, 1 Dec. 1865.
"Causes of Sickness in Dwellings," No. 2, 4 April 1866.
"Nuisances About Dwelling Houses," No. 3, 20 April 1866.
"Nuisances About Dwelling Houses, continued," No. 4, 5 May 1866.
"Disinfectants," No. 5, 1 August 1873.
These contained such pithy advice as "Ventilate! Ventilate! Ventilate! This is the beginning and end of all sanitary advice." (No. 4) In one, Snow recommended against sleeping on ground floors, since "The poison which causes cholera, like all malicious poisons, is low and grovelling. It keeps near the ground, and particularly in the damp air of the night, it often creeps into the lower rooms of a house, and into basements, when it does not reach the upper rooms." (No. 2) The tracts were clearly missionary in tone and desired effects.

[25]Snow, Census. . . (See Chap. 1, note 31, supra).

[26]Providence Journal, 25 April 1856, Snow Scrapbook, Vol. I. The editorial was probably written by William Gammell, then Professor of History and Political Economy at Brown.

[27]Snow, First Annual Report. . ., pp. 1-6.

[28]Ibid. The rules and regulations defining the Superintendent's job were released on 14 July, 1856.

[29]The first such report appeared in the issue of 3 January 1857. It is interesting to note that, of 1065 deaths reported in 1856, cancer, heart disease, and accidents caused only 14, 20, and 25 respectively. On the other hand, 5 deaths were ascribed to intemperance, 14 to insanity, and 7 to teething!

[30]Snow, First Annual Report. . ..

[31]General Advertiser, 23 July 1859 and 14 April 1860. Snow Scrapbook Vol. I.

[32]Providence Journal, 10 Sept. 1860, Snow Scrapbook Vol. I.

[33]Providence Journal, 23 April 1861, Snow Scrapbook Vol. I.

[34]Harold M. Cavins, "The National Quarantine and Sanitary Conventions of 1857 to 1860 and the Beginnings of the American Public Health Association," Bul. Hist. Med. 13: 404-26, 1943.

[35]Providence Journal, 12 June 1857, Snow Scrapbook, Vol. I.

[36]Ibid., 3 May 1859; Cavins.

[37]Edward Crane, Eighth Registration Report of the State of Rhode Island (1860), pp. 59-60.

[38]Shryock (1936), p. 234.

[39]Cavins.

[40]Tr. RIMS IV: 93, 1889.

[41]Providence Journal, 7 January 1857, Snow Scrapbook, Vol. I.

[42]Ibid., 18 March 1857.

[43]Tr. RIMS IV: 92, 1889.

[44]Edward T. Caswell, Sixteenth Registration Report of the State of Rhode Island (1868), p. 81.

[45]Providence Journal, 22 February 1867, Snow Scrapbook, Vol. I.

[46]Ibid., 7 January 1875.

[47]Ibid., 16 January 1868.

[48]Cavins, pp. 420-22.

[49]Ibid., p. 423.

[50]Rhode Island State Board of Health, Report I: 1, 1878-9.

[51]Representative Men and Old Families of Rhode Island, 3 Vols. (J.H. Beers & Co., Chicago: 1908), pp. 27-8; Tr. RIMS IV: 617, 1893.

[52]"Report of the Joint Committee on Executive Communications In Relation to the Establishment of A State Board of Health, Made to the General Assembly, at its January Session, 1878 (E.L. Freeman, Providence: 1878). This report is bound with the Board's First Report (see note 50, supra).

[53]Rhode Island State Board of Health, Report I: 1, 1878-9.

[54]Ibid.; Cf. p. 3 of this thesis.

[55]Rhode Island General Assembly, Acts and Resolves (January Session, 1878), pp. 107-109.

[56]Representative Men. . ., pp. 27-8.

[57]Ibid., pp. 1085-6.

[58]Ibid., p. 374.

[59]Ibid., pp. 4-6.

CHAPTER SEVEN

[1]Schlesinger, pp. 335-6.

[2]Ibid., p. 325.

[3]Rosenberg, p. 91.

[4]Ibid., p. 207.

[5]Edwin M. Snow, "Report Upon the Removal of Swill and House Offal, and Other Subjects, Presented to the Board of Health, June 25, 18[illegible], by the Superintendent of Health," City Document N. 4, 186[illegible]-7.

[6]_____, "A Communication on the Adulteration of Milk. . . Presented to the Board of Aldermen, February 23, 1869," City Document No. 37, 1868-9.

[7]Schlesinger, p. 316.

[8]Crowe (1955), p. 36.

[9]Schlesinger, p. 316.

[10]Rosenberg, p. 45.

[11]Ibid., p. 121.

[12]Ibid., p. 218.

[13]Providence Journal, 12 June 1857, Snow Scrapbook, Vol. I.

[14]Rhode Island Hospital, Annual Report I: 14, 1864.

[15]Snow, First Annual Report. . ., p. 45.

[16]Ibid., p. 12.

[17]Caleb Ticknor, A Popular Treatise on Medical Philosophy; or, An Exposition of Quackery and Imposture in Medicine (New York, 1838), Quoted in Young, p. 72.

[18]Snow, "A Communication on the Adulteration of Milk. . ," p. 12.

[19]Edwin M. Snow, "Report upon the Sanitary Effects of Filling the Cove Basin in the City of Providence," (Providence, n.p.: 1868).

[20]Providence Journal, September 1857, Snow Scrapbook, Vol. I.

[21]Snow, First Annual Report. . ., p. 9.

[22]Ibid.

[23]Rosenberg, pp. 216-217.

[24]Ibid., p. 148.

[25]"An Ordinance Makir Appropriations for the Support of the Government of the C ty for the Financial Year Ending on the Thirtieth Day of September, A.D. 1865," passed 12 September, 1864, City Document No. 19, 1864-5.

[26]Rhode Island General Assembly, Acts and Resolves (January Session, 1878), p. 109.

[27]Snow, "Report Upon the Sanitary Effects of Filling the Cove Basin. . .;" Letter to Amasa Eaton, Esq., 25 March 1884 (n.p., n.d.); Providence Journal, November, 1883, Snow Scrapbook, Vol. II.

CHAPTER EIGHT

[1]Robert K. Merton, "Singletons and Multiples in Science," pp. 343-370 in The Sociology of Science, a collection of Merton's essays (University of Chicago Press, Chicago: 1973), p. 350.

[2]Rosenberg, pp. 193-4.

[3]Providence Journal, 19 December 1873.

[4]Charles V. Chapin, "History of State and Municipal Control of Disease," pp. 133-160 in M. Ravenel, ed., A Half Century of Public Health (American Public Health Association, New York: 1921), p. 137.

[5]Cassedy (1962), pp. 38-9.

[6]Seebert J. Goldowsky, "Charles V. Chapin and the Public Health Movement, by James H. Cassedy," book review, R.I. Hist. 22: 96-7, 1963, p. 96.

[7]Cassedy (1962), p. 26.

[8]Ibid., p. 40.

[9]Chapin (1921), p. 143.

[10]Cassedy (1962), p. 27.

[11]Barbara Ehrenreich and Deirdre English, Witches, Midwives, and Healers (The Feminist Press, Old Westbury, New York: 1973), pp. 21-22.

[12]Ibid., pp. 22-23.

[13]Elliot Freidson, Profession of Medicine (Harper & Row, New York: 1970), p. 72.

[14]Hocker, p. 144.

[15]J. James Ellis, "Address Read Before the Rhode Island Medical Society at its Annual Meeting, July 11, 1860," Com RIMS I: 65-76, 1860, p. 67.

[16]Usher Parsons, "Address to the American Medical Association at St. Louis, 5/2/54," in Works of Usher Parsons, Vol. I (n.p., n.d.), p. 1.

[17]Com RIMS I: 47, 1856.

[18]Ibid., p. 68, 1860.

[19]Ludwig Edelstein, "Motives and incentives for science in antiquity," pp. 15-41 in A.C. Crombie, ed., Scientific Change (Heinemann, London: 1963), p. 29.

[20]Quoted in Marshall Scott Legan, "Hydropathy in America: A Nineteenth Century Panacea," Bul. Hist. Med. 45: 267-280, 1971.

[21]Charles W. Parsons, Second Registration Report of the State of Rhode Island (1853-54), pp. 69-70.

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[23]Thomas Webb, First Registration Report. . ., p. 139.

[24]Joseph Mauran, Thomas A. Webb, and Samuel B. Tobey, "Remarks on the Cholera, Embracing Facts and Observations Collected at New-York, During a Visit to that City Expressly for that Purpose" (W. Marshall and Co., Providence: 1832), pp. 16-17.

[25]Webb, First Registration Report. . ., p. 139.

[26]James H. Eldredge, "Mysterious Epidemic Influences," Com. RIMS . . 226, 1870.

[27]Thomas S. Kuhn, "The Function of Dogma in Scientific Research," pp. 347-398 in A.C. Crombie, ed., Scientific Change (Heinemann, London. 1963), p. 358. Note that this article preceded the publication of The Structure of Scientific Revolutions.

[28]George H. Daniels Jr., "Finalism and Positivism in Nineteenth Century American Physiological Thought," Bul. Hist. Med. 38: 361-368, 1964.

[29]Richard H. Shryock, "Empiricism vs. Rationalism," Proc. Am. Antiquarian Soc. 79: 99-150, pp. 120-21.

[30]Daniels.

[31]Quoted in William Osler, "Elisha Bartlett, A Rhode Island Philosopher," pp. 108-158 in William Osler, An Alabama Student and Other Biographical Essays (oxford University Press, New York: 1909), pp. 133-35.

[32]Quoted in Shryock (1969), p. 123.

[33]Usher Parsons (1854), p. 2.

[34]Hooker, pp. 136-8.

[35]Ibid.

[36]Ibid., p. 141.

[37]Barrows, p. 25.

[38]Ibid., p. 5.

[39]Erastus E. Marcy, Homeopathy and Allopathy: Reply to "An Examination of the Doctrines and Evidences of Homeopathy," By Worthington Hooker, M.D. (William Radde, New York: 1852), pp. xi-xii.

[40]Edwin M. Snow, "Report Upon the Prevention of Disease in the City of Providence: In 1866 and 1867," City Document No. 42, 1866-7.

[41]Barrows, pp. 20-24.

[42]Caswell (1875), pp. 6-7.

[43]Rosenberg, pp. 214-215. Advances in surgical technique were undoubtedly recognized by the public as well.

ADDENDUM TO CHAPTER FIVE NOTES

[65]Representative Men and Old Families of Rhode Island, 3 Vols. (J.H. Beers & Co., Chicago: 1908), pp. 295, 882, 2014, 2244; Tr. RIMS II: 218, 1879-80, III: 475, 1887.

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