

CHAPTER I

Preventive variations

“One foot in the brothel, the other in the hospital,” goes the old saying, as applicable centuries ago as today. A universal for all mortals, disease is also an artifact of history. Patients racked by the fastigium of illness will take little comfort from the insight that they are suffering from a historical construct with only contingent objective reality, but scholars have found the multiplicity and mutability of illness irresistible.¹ This diversity of signification attached to disease itself holds equally for the means employed to prevent and contain its spread. Why such precautions, the prophylactic strategies adopted in hopes of avoiding or ameliorating the ravages of epidemics, have varied dramatically among nations even though, in biological terms, the problem faced by each has been much the same is the question in search of an answer. Medical history is the immediate subject, but the ultimate purposes of this study extend beyond the precisely scientific. Since at least the era of absolutism, preventing and dealing with contagious and epidemic disease have together been one of the major tasks of states.² When Cicero advised rulers to consider the *salus populi* as the highest law, he was thinking more of military security than sewers, but his dictum was soon to be interpreted as

¹ Charles Rosenberg and Janet Golden, eds., *Framing Disease: Studies in Cultural History* (New Brunswick, 1992); Jens Lachmund and Gunnar Stollberg, eds., *The Social Construction of Illness: Illness and Medical Knowledge in Past and Present* (Stuttgart, 1992); Keith Wailoo, *Drawing Blood: Technology and Disease Identity in Twentieth-Century America* (Baltimore, 1997); Paula A. Treichler, “AIDS, Homophobia, and Biomedical Discourse: An Epidemic of Signification,” in Douglas Crimp, ed., *AIDS: Cultural Analysis, Cultural Activism* (Cambridge, 1988), p. 69; Joseph Margolis, “The Concept of Disease,” *Journal of Medicine and Philosophy*, 1, 3 (September 1976); Peter Conrad and Joseph W. Schneider, *Deviance and Medicalization: From Badness to Sickness* (St. Louis, 1980), ch. 2. A truly untenable version, either trivial or false, is that of Andrew Cunningham, “Transforming Plague: The Laboratory and the Identity of Infectious Disease,” in Cunningham and Perry Williams, eds., *The Laboratory Revolution in Medicine* (Cambridge, 1992), pp. 238–44.

² George Rosen, *From Medical Police to Social Medicine* (New York, 1974), pp. 120ff.; Abram de Swaan, *In Care of the State: Health Care, Education and Welfare in Europe and the USA in the Modern Era* (New York, 1988), ch. 4; Marianne Rodenstein, “*Mehr Licht, mehr Luft*”: *Gesundheitskonzepte im Städtebau seit 1750* (Frankfurt, 1988), pp. 35–40.

a reference to the public health. Such protection is in many ways a classic public good, demanding a communal decision to require tickets of potential free riders: the quarantine evader whose personal convenience bodes collective catastrophe; the unvaccinated who, themselves benefiting from herd immunity, refuse to contribute to it; the tubercular who, failing to complete their prescribed medical regimen, spread an ever more resistant and virulent strain of bacillus. The dilemmas raised counterpose the rights of the individual to autonomy and freedom and the claims of the community to protection against the potential calamity threatened by its infectious members. They cast up the basic problem of reconciling individual and community in the most fundamental, pressing and unavoidable of terms.

An examination of the historical evolution of preventive techniques against contagious disease and their variation among nations therefore seeks to use public health to illuminate broader issues of state intervention. Taking epidemic control as its example, the question posed concerns the reasons for national differences not just in terms of hygiene, but also in broader realms of statutory intervention and control. In particular, the problem concerns the direction in which causality has worked. That political culture, a style of governance, the nature of a particular national state would leave their mark on the tactics applied to disease control seems intuitively obvious. The more interesting question concerns the extent to which, in fact, the dilemmas thrown up by the threat of epidemics were experiences that shaped and changed the style of statutory intervention. To mangle Clausewitz yet again, was prophylaxis a continuation of politics with other means or were politics shaped by the imperatives of prevention? What are the sources of the political traditions that are so often themselves invoked as final historical causes of variation between nations?

THE EPISTEMOLOGY OF EPIDEMICS

Sketched with a thumbnail, the history of understanding contagious disease has unfolded in a field of polar tension. On the one hand, certain illnesses (ophthalmia, smallpox, syphilis, phthisis and plague) have long been recognized as contagious, transmitted directly between humans, via touch or over short distances through the air, sometimes through the intermediation of objects or animals. The idea that disease can be communicated directly between humans was held already by the ancient Egyptians and Jews. The Book of Leviticus detailed rules for isolating

lepers and the concept of contagion became widely recognized in the Latin west with the acceptance of the Old Testament as a holy book of Christianity. In the early sixteenth century Fracastoro elaborated ideas of contagiousness for plague, smallpox, measles, tuberculosis, rabies and syphilis.³

On the other hand, a localist school of thought has long preached that disease, rather than spreading contagiously from one place to another, arose independently in each from various indigenous circumstances. The conditions in question have varied over the development of this strain of analysis with the emphasis shifting, broadly speaking, from natural to humanmade factors. Hippocrates and Galen formulated a miasmatic concept of disease involving an epidemic constitution of the atmosphere, corrupted by climatic, seasonal and astronomical influences. During the seventeenth century, Sydenham argued that epidemics were started by changes in the air resulting from emanations either from the earth's core or out in the universe. While such causes were largely beyond human influence, by the middle of the eighteenth century other environmental factors began to attract attention, ones that were potentially controllable. Miasmas arising from swamps and stagnant waters, filthy and crowded living conditions and the putrefaction of organic matter were all considered conspirators in the production of fevers.⁴ But since, even given such general causes (whether exotic or environmental), not everyone was affected, another factor seemed necessary to explain why only some succumbed in epidemic circumstances: an individual predisposition that could be aggravated by fatigue, diet, habits, emotional strain and the like. With long historical precedence, immunology is the modern version of accounting for why, even given uniform contact with the sources of illness, morbidity varies individually.⁵ The basic building blocks of etiological argument, from which in varying combinations conceptions of disease causation are constructed, have thus long been in place: a focus on environmental causes of various sorts, a recognition of the role played by individual predisposition and

³ Charles-Edward Amory Winslow, *The Conquest of Epidemic Disease* (Princeton, 1944), pp. 73–74; Sven-Ove Arvidsson, “Epidemiologiska teorier under 1800-talets koleraepidemier,” *Nordisk medicinhistorisk årsbok* (1971), p. 181; William Bulloch, *The History of Bacteriology* (London, 1938), p. 4; Robert P. Hudson, *Disease and Its Control* (Westport, 1983), p. 143; Harry Wain, *A History of Preventive Medicine* (Springfield, 1970), pp. 50, 96.

⁴ James C. Riley, *The Eighteenth-Century Campaign to Avoid Disease* (New York, 1987), pp. ix–x, xv; Margaret Pelling, *Cholera, Fever and English Medicine 1825–1865* (Oxford, 1978), p. 18.

⁵ Antoinette Stettler, “Die Vorstellungen von Ansteckung und Abwehr: Zur Geschichte der Immunitätslehre bis zur Zeit von Louis Pasteur,” *Gesnerus*, 29 (1972).

an acknowledgment that at least certain diseases were contagious, transmitted from person to person, sometimes through the intermediation of objects or, as later recognized, other animals.⁶

In terms of preventive strategy, different etiologies had, broadly speaking, various implications. A view of disease as spread by contagion sought above all to break chains of transmission, interrupting the circulation of carriers by means of cordons, quarantines and sequestration. These were the techniques that we may generally call quarantinist, classically employed against leprosy, whose victims became the ultimate epidemiological outcasts. In German, the very name of the disease, *Aussatz*, indicates the social fate of its victims, set, as they were, outside the normal life of the community. For localists, in contrast, disease was best prevented by removing or correcting its environmental causes. As long as these were still seen as primarily atmospheric, climatic or astronomical, little could be accomplished. Once, however, the pertinent conditions had been narrowed to humanmade and individual factors in the proximate surroundings, something might be done about them. Localists sought to drain stagnant water, separate humans from their filth and excrement, build better housing, plan more hygienic cities, provide healthy food and warm clothing, encourage individuals to change their predisposing habits. Where the sun does not penetrate, as the old Persian proverb had it, the physician is a frequent visitor. Do not fixate on germs, Newman cautioned in 1930. “The essential thing is the healthy and resistant body of man, and the maintenance of his harmonious functioning in relation to Nature and his environment, and in relation to human society.”⁷ In a broad sense we may call the prophylaxis associated with this social version of a localist etiology an environmental or sanitationist approach, an attempt to ameliorate the surrounding circumstances seen as causing illness. Where quarantinism sought to control people, as one observer has succinctly put it, environmentalism took aim at property.⁸

Individual predisposition, in turn, played a role in both preventive approaches, explaining why it was that any particular individual succumbed to disease, whether caused by a transmitted something or by the effect of local noxiousness. In sum, however, predisposing factors

⁶ Winslow, *Conquest of Epidemic Disease*, pp. 73–74, 181; Charles E. Rosenberg, *Explaining Epidemics and Other Studies in the History of Medicine* (Cambridge, 1992), pp. 294–96.

⁷ George Newman, *Health and Social Evolution* (London, 1931), p. 115.

⁸ Gerry Kearns, “Private Property and Public Health Reform in England 1830–1870,” *Social Science and Medicine*, 26, 1 (1988), p. 188.

were of greater concern to environmentalists than quarantinists. Since the latter were concerned above all with breaking chains of transmission, the precise reason for the infectiousness of the victim in question, whether predisposed or not, was largely irrelevant for the precautions to be imposed. For the former, in contrast, attacking predisposing factors was an element of prevention. Some of these (deficient housing, impoverished diet, the stress and strain of market competition) could be ameliorated through the broad, communal social reform that preoccupied sanitationists. Others, however (bad habits, excess and immoderation, especially in matters sexual and dietary), were elements that required an individual change in behavior. The hope of effecting such modifications elicited the hectoring and moralizing side of sanitationist efforts, the ambitions to impose the standards of personal hygiene and moderate behavior characteristic of middle-class public health officials not only down the social scale, on lower classes feared as uncouth and insalubrious, but also upwards, on aristocrats often regarded as sexually promiscuous, gustatorially insatiable and morally suspect. From this preoccupation with individual predisposition sprang the Janus face of an environmentalist approach to disease, tergiversating between public and private goods: its socially reforming concern to assure even the poorest of basic sanitary infrastructure and decent living conditions; its socially controlling interest in making the circumspect and hygienic habits of the urban middle classes the standard to which all could be held.⁹

Like quarantinist techniques of disease prevention, an environmentalist approach too sports a venerable pedigree. The ancient Jews had been the first to develop not only the rules of contagionist prophylaxis detailed in Leviticus, but had also formulated other pertinent aspects of public hygiene: a weekly day of rest, protection of the food and water supply, concern with abnormal discharges of the genitals and more general bodily cleanliness, including perhaps (if one is willing to attribute also functional motives to religious rituals) circumcision. Hippocrates at Athens attempted to burn miasma out of the air by lighting pyres. The Romans built sewers and laid on water with an accomplishment that would take centuries to replicate. English regulations requiring the salubrity of the urban environment date from the late thirteenth century. The plague of the following century prompted renewed cleansings of

⁹ Some of the most subtle and nuanced analysis in this respect is to be found in Christopher Hamlin, *Public Health and Social Justice in the Age of Chadwick: Britain, 1800–1854* (Cambridge, 1998), pp. 201–13 and *passim*.

public spaces, prohibitions on emptying cesspools and keeping pigs.¹⁰ Starting in the fifteenth century, waste removal, sewerage and cleansing became part of a concerted public health program in central and northern Italy; indeed in Florence regulations on street cleaning and other sanitary measures were two centuries older. The Venetians had strictures governing a panoply of public health eventualities, from food to filth.¹¹ Environmentalist public works (draining land, street paving, sewerage) continued in a sustained fashion during the middle of the eighteenth century in other European nations. As a coherent current of public health, such attempts to improve local, and especially urban, conditions took root with the Enlightenment and then especially in the early nineteenth century, starting in France with the theories of Villermé.¹² In Germany, prominent sanitationists included Virchow and later Pettenkofer. As in so many things, while the French may have taken the intellectual lead, in practical terms they lagged and the baton was grasped by the British who, toward the middle of the century, began the process of urban improvement and hygienic reform that realized in its classic sense an environmentalist approach to epidemic disease. Drainage, sewerage, water filtration, zoning laws to separate work from residence and production from recreation, building codes to ensure sweetness and light, fresh air and elbow room: all were techniques brought to perfection in Britain during this period.¹³ Under the leadership of Chadwick, Southwood Smith, John Simon and colleagues, a radical strain of environmentalist ideology evolved here that, attributing most disease to unpropitious local conditions, held out the possibility

¹⁰ George Newman, *The Rise of Preventive Medicine* (Oxford, 1932), pp. 47–49; Arthur Newsholme, *Evolution of Preventive Medicine* (Baltimore, 1927), p. 57; John Simon, *English Sanitary Institutions* (London, 1890), p. 39; Karl Sudhoff, *Skizzen* (Leipzig, 1921), pp. 151–53; Jean-Noël Biraben, *Les hommes et la peste en France et dans les pays européens et méditerranéens* (Mouton, 1976), v. II, pp. 104, 178–79; Robert S. Gottfried, “Plague, Public Health and Medicine in Late Medieval England,” in Neithart Bulst and Robert Delort, eds., *Maladies et société (XIIe–XVIIIe siècles)* (Paris, 1989), pp. 348–59.

¹¹ Carlo M. Cipolla, *Miasmas and Disease: Public Health and the Environment in the Pre-Industrial Age* (New Haven, 1992), pp. 6–7; Carlo M. Cipolla, *Public Health and the Medical Profession in the Renaissance* (Cambridge, 1976), pp. 34–35; Ann G. Carmichael, *Plague and the Poor in Renaissance Florence* (Cambridge, 1986), pp. 96–97; Ernst Rodenwaldt, *Die Gesundheitsgesetzgebung des Magistrato della sanità Venedigs, 1486–1550* (Heidelberg, 1956).

¹² Riley, *Eighteenth-Century Campaign*, p. 102; Erwin H. Ackerknecht, “Hygiene in France, 1815–1848,” *BHM*, 22, 2 (March–April 1948), p. 141; Ann F. La Berge, *Mission and Method: The Early Nineteenth-Century French Public Health Movement* (Cambridge, 1992), pp. 96–97; John M. Eyler, *Victorian Social Medicine: The Ideas and Methods of William Farr* (Baltimore, 1979), p. 7; Laurence Brockliss and Colin Jones, *The Medical World of Early Modern France* (Oxford, 1997), pp. 750–60.

¹³ As emblematic of a vast literature, see Anthony S. Wohl, *Endangered Lives: Public Health in Victorian Britain* (London, 1983).

that the problems of public health could, with one prolonged herculean effort, be solved simultaneously and in much the same way as those of poverty and general social iniquity: through the rebuilding of the urban environment as a well-planned, -plumbed, -lit and -ventilated city, by means of improvements in the living conditions of the poor.

The quarantinist approach, in the meantime, did not pass away in the face of this totalizing utopian sanitary vision. While certain illnesses were generally conceded to be transmissible, doubts voiced early in the nineteenth century concerning plague and yellow fever acquired critical mass when, in the 1830s, the cholera epidemics ravaging western Europe did not appear to spread solely by means of personal contact. During the heyday of an environmentalist stance (at midcentury in France, in Britain with Chadwick, Germany under Pettenkoferian sway) contagionism was seen as an outmoded, oldfashioned and conservative approach to disease that denied its obvious causes in filth and squalor, preferring to lock victims in lazarettos rather than improve their living conditions. But far from vanishing, contagionism celebrated a triumphant return with the bacteriological revolution at the end of the century when Pasteur, Koch and others vindicated the insight that much disease, caused by specific microorganisms, was often transmitted among humans and that, whatever the effects of predisposing factors, however detrimental filth and unfortunate poverty, certain illnesses spread independently of social and local circumstances, requiring therefore precautions other than the mop and bucket full of soapy water and good intentions wielded by the sanitationists.

A strictly binary view of either etiology (localism vs. contagionism) or prophylaxis (sanitationism vs. quarantinism) would, however, be a distortion. These three basic building blocks of epidemiological theory (local factors, whether natural or social, individual predisposition and contagion) were multiply and mutually permeable.¹⁴ Miasmas could be regarded as localist, contagionist or both, seen as emanations produced by environmental causes, other times as the vehicle by which disease spread from one place to another.¹⁵ The fact that physicians attending

¹⁴ Christopher Hamlin, "Predisposing Causes and Public Health in Early Nineteenth-Century Medical Thought," *Social History of Medicine*, 5, 1 (April 1992), pp. 46–49.

¹⁵ In the late eighteenth century, for example, VD, clearly recognized as transmissible from person to person, was thought to be carried by micro-miasmas from one set of genitals to the next: Johann Valentin Müller, *Praktisches Handbuch der medicinischen Galanteriekrankheiten* (Marburg, 1788), pp. 29–31, 67. Yellow fever in the 1860s was regarded as imported, but not contagious, as arising from a specific miasma, not generally from filth or fouled air: William Coleman, *Yellow Fever in the North: The Methods of Early Epidemiology* (Madison, 1987), pp. 23, 55.

the ill were also stricken with typhus, as Virchow reasoned in 1848, could equally well prove that the disease was of local origin (doctor and patient afflicted by the same factors) as show that it was contagious.¹⁶ Individual predisposition was a factor of interest both to localists and contagionists, explaining in either scheme why not everyone succumbed even in the worst of epidemics. Nor was bacteriology, which disproved the fundamental assumption of the most fervent sanitationist creed, that epidemic disease arose of virgin birth each time anew, irreconcilable with other devoutly held localist beliefs. Bacteriology showed environmentalists in what respect they had been right, how it was that filth, though not a cause per se of disease, might favor its multiplication and spread, why in fact it was right to locate the outhouse far from the well.¹⁷ Bacteriologists and sanitationists could readily agree that unhygienic conditions promoted the spread of disease, even though the latter saw filth itself as the generator of disease, the former regarding it mediately as a condition favorable to propagating the microorganisms ultimately responsible for illness.¹⁸ If hygienic reform eliminated malevolent microorganisms, as with Koch's insistence on water filtration to solve Hamburg's cholera problem, then sanitarians and contagionists were in perfect harmony. Dietary excess could be a predisposing factor in both views, whether because of a general weakening of resistance for sanitationists or a neutralizing of the stomach acidity necessary to kill microorganisms for their opponents.¹⁹ Overcrowding was an insalubrious condition, much lamented by environmentalists, which bacteriologists had reasons consistent with their etiological position (ease of vector transfer) to regard as conducive to the spread of disease.²⁰ Promiscuity, all could agree, was a factor in the dissemination of venereal disease, although only some thought it also a cause. Both sides could favor removing cholera victims from their abode, whether the reasoning was to prevent germs from spreading or to allow noxious domestic atmospheres to dissipate. Both considered disinfection, fumigation and cleansing effective prophylaxis, either because the contagium was thus destroyed or because putrefac-

¹⁶ Rudolf Virchow, *Collected Essays on Public Health and Epidemiology* (Canton, 1985), v. I, pp. 276–78, 340–41.

¹⁷ Hudson, *Disease and Its Control*, p. 188; Wolfgang Locher, "Pettenkofer and Epidemiology: Erroneous Concepts – Beneficial Results," in Yosio Kawakita et al., eds., *History of Epidemiology* (Tokyo, 1993).

¹⁸ *Sanitary Record*, 1 (26 September 1874), pp. 229–31; Carl Barriés, *Die Cholera morbus* (Hamburg, 1831), pp. 68–69, 238ff. ¹⁹ *Hygiea*, 55, 6 (June 1893), pp. 609–23.

²⁰ As Richard Thorne Thorne pointed out for smallpox: *First Report of the Royal Commission Appointed to Inquire into the Subject of Vaccination* (C.-5845) (London, 1889), QQ 764, 770.

tion and pestilential emanations were neutralized.²¹ Both could advocate isolation of the ill, either to break chains of transmission, or as a kind of purification of the population.²²

Environmentalists were often willing to concede that diseases originally arising from local causes (and even the most ardent contagionist without an intergalactic approach had to admit that all must ultimately have started somewhere for reasons other than importation) might attain a degree of virulence rendering them transmissible.²³ Localism and contagionism were regarded by many as compatible.²⁴ Disease might arise locally, but could then be transmitted; whatever its origin, contagious illness often struck differentially depending on predisposing factors. Infectionism and contingent contagionism were terms used for such formulations of the interdependence of contagion and local factors.²⁵ Contagionism and localism were thus two poles in a field of intellectual tension within which any individual position took its stance. While absolute contagionists and localists, convinced quarantinists and sanitationists, could be found, most observers fell somewhere between the extremes. Nonetheless, without reifying the concepts and anachronistically fixing in time concepts that have never, of course, stood outside the flux of historical development, it remains the case that a crucial distinction persists over the *longue durée* of western thinking about diseases and their causes that can and should not be effaced by attempts to render nuanced and more subtle otherwise overly stark dichotomies. Just as the myths of Hygeia and Asclepius, the ideals of prevention and cure, the approaches of “ecology” and “engineering,” have identified two polar medical ambitions over centuries, so too a closely related distinction has been drawn, etiologically speaking, between a focus on the environmental background of epidemic disease and its transmissibility among humans; prophylactically, between attempts to ameliorate toxic surroundings and limiting contagious spread.²⁶ The remedy, says the

²¹ R. J. Morris, *Cholera 1832: The Social Response to an Epidemic* (New York, 1976), p. 174.

²² Lloyd G. Stevenson, “Science down the Drain: On the Hostility of Certain Sanitarians to Animal Experimentation, Bacteriology and Immunology,” *BHM*, 29, 1 (January–February 1955), p. 9.

²³ *Gazette médicale de Paris*, 3, 15 (1832), p. 155; 3, 74 (1832), p. 516; Rudolph Wagner, *Die weltgeschichtliche Entwicklung der epidemischen und contagiösen Krankheiten und die Gesetze ihrer Verbreitung* (Würzburg, 1826), p. 10; Martha L. Hildreth, *Doctors, Bureaucrats, and Public Health in France, 1888–1902* (New York, 1987), pp. 114–17; Hamlin, “Predisposing Causes and Public Health,” p. 47.

²⁴ L. Pappenheim, *Handbuch der Sanitäts-Polizei* (2nd edn., Berlin, 1870), v. II, p. 154; Hermann Eulenberg, ed., *Handbuch des öffentlichen Gesundheitswesens* (Berlin, 1881), v. I, p. 511; *PP* 1866 (3645) xxxiii, p. 455.

²⁵ Hudson, *Disease and Its Control*, p. 142.

²⁶ Rene Dubos, *Mirage of Health* (New York, 1959), ch. 5; John Powles, “On the Limitations of Modern Medicine,” *Science, Medicine and Man*, 1 (1973), p. 25.

physician in Brioux's *Damaged Goods*, speaking of tuberculosis and summing up the dichotomy, is to pay decent wages and tear down sub-standard housing, but instead workers are advised not to spit.

THE POLITICS OF PUBLIC HEALTH

How to prevent and protect against contagious disease is a problem that invokes some of the most fundamental and perduring dilemmas in the contradiction between individual rights and the demands of society, between (most starkly) the claim to personal corporeal integrity and the authority of the community to ensure the health of its members.²⁷ To what extent may society protect itself against individuals whose misfortune to be stricken with a transmissible ailment poses a threat to others? Contagious disease has accordingly raised issues that go beyond the epidemiological to become political. The spirit of partisanship, as one early observer of cholera put it, burns with almost the same ferocity on topics medical as political, while others extended the comparison even to the ticklish realm of theology.²⁸

One might be forgiven for considering the prevention of contagious disease a question of medical technique. Faced with a biologically identical problem, each nation could be expected to resort to similar preventive measures, ones dictated by the state of etiological knowledge. In fact, variations in prophylactic strategies employed by different nations have been remarkably pronounced. Before the bacteriological revolution this was perhaps less surprising. With no single accepted scientific guide to follow, nations were free to choose preventive tactics according to other criteria. But such divergences persisted, indeed in many respects sharpened, during the era when, scientifically speaking, general agreement had been wrought on the etiological bases of at least the classic contagious diseases.

For the early phases of cholera (up to the 1850s), for example, the extremes were defined by, on the one hand, the strict quarantinist practices (sealing borders, isolating travelers, sequestering the sick and generally seeking to break chains of transmission in much the way traditionally employed against the plague) imposed in Russia, Austria and Prussia and, on the other, the sanitationist approach eventually adopted in Britain and, for the time being, France (allowing unrestricted movement of

²⁷ Jean-Marie Auby, *Le droit de la santé* (Paris, 1981), p. 24.

²⁸ Bisset Hawkins, *History of the Epidemic Spasmodic Cholera of Russia* (London, 1831), p. 154; *Westminster Review*, 2 (1825), pp. 135–36.