PUBLIC HEALTH IN MID-VICTORIAN BRISTOL

by DAVID LARGE and FRANCES ROUND

ISSUED BY THE BRISTOL BRANCH OF THE HISTORICAL ASSOCIATION
THE UNIVERSITY, BRISTOL
Price Thirty-Five Pence
1974

BRISTOL BRANCH OF THE HISTORICAL ASSOCIATION
LOCAL HISTORY PAMPHLETS

Hon. General Editor: PATRICK McGRATH

Assistant General Editor: PETER HARRIS

Public Health in mid-Victorian Bristol is the thirty-fifth pamphlet published by the Bristol Branch of the Historical Association. The important and interesting subject of public health in nineteenth century Bristol has received very little attention from historians, and the authors of this pamphlet break new ground.

The Branch wishes to express its gratitude to the Marc Fitch Fund and to the Publications Committee of the University of Bristol for grants to assist in the cost of printing this pamphlet. Mr. Langley and Miss Clare Crick very kindly assisted the authors with the illustrations, and the map was prepared by Mr. Simon Godden of the Department of Geography. Messrs. J. W. Arrowsmith gave permission for the reproduction of the portrait of William Budd.

The next two pamphlets in the series will be concerned with Bristol and the Abolition of Slavery and with the setting up of the Bristol Constabulary.

Eight of the pamphlets in this series have appeared in book form under the title of *Bristol in the Eighteenth Century*, edited by Patrick McGrath, and published by David and Charles. The book is now available at £1.50.

From time to time, the Branch has brought out new editions of earlier pamphlets which have gone out of print. The latest reprint is Grahame Farr's *The Steamship Great Western* now available at 30p.

A full list of publications is given on the inside back cover.

The pamphlets can be obtained from most Bristol booksellers, from the shop in the City Museum, from the Porters' Lodge in the Wills Memorial Building and in the Senate House, or direct from Mr. Peter Harris, 74 Bell Barn Road, Stoke Bishop, Bristol, 9. Readers are asked to help the work by placing a standing order for future productions.

Public Health in mid-Victorian Bristol

by DAVID LARGE and FRANCES ROUND

In the middle of the last century Bristol enjoyed the unenviable distinction of being the third most unhealthy city in the the country. In 1845 only Liverpool and Manchester had a higher general mortality rate. Yet just over twenty years later *The Times* was able to observe that Bristol had been transformed 'from nearly the most unhealthy to be nearly the most healthy town in Great Britain.' The measures taken to achieve this most desirable result, *The Times* suggested, were of more than local significance since if they were found to produce comparable results elsewhere this would be 'a step towards a reduction of sickness and mortality such as no-one, in the present state of our towns, would venture to predict.' The solid evidence of improvement in Bristol, *The Times* noted, lay in the reduction of the general mortality rate from 28 per thousand in 1850 to 22 per thousand in 1869.[1] And, it should be emphasised, Bristol stood out as exceptional among the larger towns in achieving such a saving of life in mid-Victorian Britain[2]. It is

1. *The Times* 18 Oct. 1869.
2. See *31st Annual Report of the Registrar-General of Births, Marriages and Deaths* (P.P. 1870 c. 97) which on p. lxix shows that the rate of mortality in 14 large towns in the U.K. was lowest in Bristol.

true that in the eighteen-forties a substantial campaign had been mounted, with the inexhaustible Edwin Chadwick in the van,[1] to enlighten the public and the politicians on the urgent need for drastic measures to provide the Victorians with ample supplies of pure water, adequate systems of sewage disposal and properly ventilated homes in the hope that the ravages of diseases such as cholera, typhus, typhoid, dysentery and so forth would be checked. One upshot of the campaign had been the first Public Health Act in British history, passed in 1848. Nevertheless progress in improving public health in the following twenty years had been patchy, slow and very limited,[2] so that by the late sixties a second major campaign to get something done was under way.[3] In effect Bristol pointed the way forward, and it is the purpose of this essay to examine how and why her health record improved so dramatically over these twenty or so years. In the course of our exploration we shall have particular occasion to single out the contributions of the City Council acting in the capacity of a Local Board of Health through its Sanitary Committee, of the Bristol Water Works Company and of two distinguished men whose life-work lay in Bristol, Dr. William Budd, physician to the Bristol Royal Infirmary, and Mr. David Davies, the city's first Medical Officer of Health who, with his son, Dr. D. S. Davies, as his successor, was destined to serve Bristol for the remarkable span of sixty three years (1865-1927).

But first it is best to set the scene and to indicate the nature of the problem facing the small band, chiefly doctors, who were concerned about trying to improve the city's health. A number of reports and pamphlets[4] which formed part of the national campaign of the eighteen-forties enable us to sketch the situation. First, all investigators agreed that there was a direct connection between

1. See his classic *Report on the Sanitary Condition of the Labouring population of Great Britain* (1842). Even Chadwick, however, did not manage to find room for Bristol in this major opening shot in the campaign.
2. Usefully emphasised and illustrated in M. W. Flinn's introduction to the 1969 reprint of A. P. Stewart and E. Jenkins, *The Medical and Legal Aspects of Sanitary Reform* (1867).
3. This bore initial fruit in the appointment of the Royal Sanitary Commission in 1869.
4. These included, Dr. William Kay, *The Sanitary Condition of Bristol and Clifton* (1844); Sir Henry de la Beche's, *Report on the state of Bristol* (1845) made on behalf of *The Royal Commission on the state of Large Towns and Populous Districts*: J. Green, *Account of the recent improvements in the drainage and sewerage of Bristol* (1848) and most comprehensive of all, G. T. Clark, *Report to the General of Health on the sanitary condition . . . of Bristol* (1850).

dirtiness and the prevalence of disease and that Bristol was extremely dirty and smelly. Indeed even the seasoned Chadwick remarked upon the fact that Sir Henry de la Beche, surveying the city in 1845, had been obliged to stand up at the end of alleys and vomit while his colleague, Dr. Playfair was investigating overflowing privies, so noisome was the state of Bristol.[1] The dirt and smells arose from the total inadequacy of arrangements to dispose of sewage and household refuse and the appalling state of the water supply.

The provision of sewers had not grown *pari passu* with the growth of Bristol. For example, outside the boundaries of the old city there were virtually no sewers at all in Bedminster (the parish had a population of 19,424 at the 1851 Census) and very few in the out-parish of St. Philip and St. Jacob. In the old city some did exist but their efficiency was often limited by faulty construction. For instance, the inhabitants of three courts off Redcross Street regularly suffered from 'a large accumulation of privy and house refuse which formed extended local cesspools' simply because their drains flowed the wrong way.[2] Furthermore, such sewers as did exist discharged into the Frome, the Avon or their various contributory streams, turning the latter especially into little better than open sewers. The other great receptacle of sewage was the Floating Harbour in the heart of the city into which in 1848 34 sewers discharged, it was estimated, not less than 20,000 tons of solid matter annually.[3] Even when new sewers were constructed by the Paving Commissioners to relieve existing overburdened ones it was common to find that houseowners were unwilling to go to the expense of having their house drains joined to the new sewer.

If anything the water supply situation was worse. Sir Henry de la Beche's report in 1845, already referred to, said categorically, 'there are few, if any, large towns in England in which the supply of water is so inadequate as at Bristol.' There were a number of ancient conduits leading spring water into the city, and several springs in Clifton which supplied part of that district, but, it was estimated, only about 5,000 people, mostly of the better-off classes, had piped water, while 73,000 were dependent on pumps and wells. These provided a very meagre supply, often too filthy for washing and quite undrinkable, especially in the low-lying parts

1. R. A. Lewis, *Edwin Chadwick and the public health movement, 1832-1854*, p. 34.
2. G. T. Clark, *op. cit.*
3. J. Green, *op. cit.*

of the town. Moreover, water was expensive in Bristol, costing a penny for two small buckets. Neighbouring Bath, as Chadwick discovered, had a much better supply run as a public enterprise.[1] Mr. Rogers, a Bristol surgeon, spoke no more than truth when he remarked, 'cleanliness cannot and does not exist.'[2]

The upshot of these severe deficiencies of sewage and water supply was clear. Bristol had an immense pollution problem and was a most unhealthy place to live in. The general mortality rate for the decade 1841-1851 averaged 29 per 1,000, substantially above the national average rate. Disease flourished. For example in 1849 cholera caused 444 deaths in the city during the nationwide epidemic.[3] Every doctor could testify to the prevalence of 'fevers.' Also it was clear that the poorer you were the more likely you were to die from such visitations. As Dr. William Kay, senior physician to the Clifton Dispensary, put it in 1844, 'the mortality of tradespeople . . . is more than double, and that of the lower classes, more than treble the mortality amongst the higher classes.[4]

Surely something was being done to remedy this state of affairs? Yes it was, but not very much, thanks to a great deal of public indifference and inadequate local government machinery consisting of a muddle of conflicting bodies armed with insufficient authority over sanitary matters in different parts of the city[5] and displaying little of the initiative that the corporations of Liverpool and Manchester had shown in securing special legislation to help them cope with their public health problems.[6] The City Council had appointed an Improvement Committee in 1840 but its activities bore little relation to the urgent sanitary problem.[7] In 1847, however, it did establish a Bath and Wash-House Committee which eventually opened Public Baths in the Rope Walk on 12 August 1850. This was a small step in the right direction and a popular

1. E. Chadwick, *Report on the Sanitary Condition* . . .pp. 145-7.
2. Sir Henry de la Beche, *op. cit.*
3. J. Latimer, *The Annals of Bristol in the nineteenth century*, p. 313.
4. W. Kay, *The sanitary condition of Bristol and Clifton* (1844).
5. e.g. A body of 38 Paving Commissioners had authority over sewers, paving, cleansing and lighting in the old city by a local Act of 1806; another body of 18 Commissioners had similar authority in St. James and St. Paul's under a local Act of 1832 and the parochial authorities were responsible in the rest of the city.
6. Liverpool had procured a local Act in 1846 which enabled the corporation to appoint the first M.O.H. in the country, Mr. W. H. Duncan, while Manchester had created a Building and Sanitary Regulations Committee in 1844, for whose work see A. Redford, *A history of local government in Manchester*, vol. ii.
7. *Bristol Improvement Committee, Minute book, passim.*

one, since no less than 7,352 people used the facilities in the first four weeks.[1] Bristol was not, however, a pioneer in this; other large towns had preceded her. In addition, a fairly ambitious plan to improve the foul state of the Frome had been drawn up by a special committee of the Council in 1846-7 but it was implemented only in a much reduced form thanks to the limited powers at the Council's disposal.[2]

Two developments, however, were destined to bring about change: the first Public Health Act of 1848 and the cholera epidemic of 1849. The 1848 Act, *inter alia*, established a General Board of Health at national level and enabled local Boards of Health to be created in districts where the death rate exceeded 23 per 1,000. Bristol's high death rate put her well within the scope of the Act and indeed her sanitary condition was inquired into in 1850 by an inspector, Mr. G. T. Clark, from the General Board at the request of the City Council as a preliminary to adopting the Act. It would seem that the major factor persuading the Council to so proceed was the alarm and concern caused by the cholera epidemic. Nevertheless not everyone was convinced of the need for a local Board of Health, particularly since the Act designated the City Council as the Board, provided it with a wider range of sanitary powers than ever before, including power to appoint an M.O.H., and seemed likely to involve increased public spending and therefore higher rates. Inevitably the bodies to be superseded —the Paving Commissioners and parish authorities—protested,[3] and fierce opposition came from *The Bristol Mirror* which warned 'Gentlemen, take care of your pockets' and raised the familiar cry of beware Whitehall.[4] Even though the General Board had very limited powers of control over the local Board, Toulmin Smith, the most vociferous of mid-Victorian opponents of 'centralization',

1. *Proceedings of the Council*, 10 Sept. 1850.
2. J. Green, *Account of the recent improvements in the drainage and sewerage of Bristol* (Bristol, 1848). Mr. Green was the surveyor who drew up the scheme.
3. Clark's report in particular was attacked as biased and founded on inadequate evidence. See *A statement of the Commissioners of Sewers, Paving, Lighting and Cleansing of the City of Bristol* (Bristol 1850). One of the Commissioners claimed that adopting the Act would plunge Bristol into 'the unfathomable sea of illimitable responsibility' and that ratepayers would be faced with burdens forced upon them by 'the overruling power' of the General Board. (H. W. Buckhall, *An explanation of the operation and effects of the Public Health Act* (Bristol, 1850).
4. *The Bristol Mirror*, 20 July, 3 Aug. 1850.

was brought down to address the citizens.[1] The opposition, however, merely delayed but did not frustrate the passing of a local Act in 1851 establishing a Local Board of Health in the form of an annually chosen committee of the City Council, christened the Sanitary Committee. Its main work over the next fifteen years was to be the creation of an impressive system of main drainage for the whole city which was undoubtedly a major contribution towards making Bristol a healthier place to live in.

Altogether by 1866 Bristol had over one hundred miles of main sewers, all, regrettably, emptying into the tidal waters of the Avon, since the pioneers of sanitary reform, Chadwick above all, had never really appreciated the seriousness of the problem of disposing of sewage once it had been collected. The Sanitary Committee had, however, planned its work methodically and had overcome many difficulties. Its basic plan was to divide the city into districts which would be tackled one at a time, and the table below[2] sets out the order in which this was done and indicates the scale of the works involved. In each case the capital was borrowed from the Public Works Loan Commissioners at 5% and repaid in annual instalments over twenty years.

Connection of house drains with the main sewers proceeded

District	Estimated cost	Actual Cost	Length of Sewers	Area Drained
Clifton High level.	£20,000	£34,014	11 miles	1,041 acres
Bedminster	£ 9,500	£11,424	5¾ miles	876 acres
Clifton Low level	£15,000	£13,969	3 miles	279 acres
St. Philips	£26,000	£25,121	7 miles	685 acres
Frome Valley	£30,000	£31,285	8 miles	1,289 acres

1. *The Bristol Times* 10 Aug. 1850. This paper and *The Bristol Mercury*, however, favoured adopting the Act, as did a pressure group, supported by a number of doctors and clergy, including the Bishop, who called themselves *The Bristol Association for the Improvement of Public Health*. It had been active during the 1849 cholera epidemic and supplied Mr. Clark with useful evidence for his 1850 inquiry.
2. These figures have been compiled with the aid of the City Engineer's Department to whom we express our gratitude.

steadily[1] with the Sanitary Committee insisting that its Surveyor must first approve all such work and if house owners were reluctant to do so it was active in serving notices obliging them to connect their drains to the sewers or else pay the Committee for doing so. Problems there certainly were, and it will not surprise Bristolians to hear that St. Pauls provided more than the usual crop. Here one of the difficulties was that sewers had to pass through water-bearing strata. This led to water entering the trenches being dug for the sewers and caused anxiety to the inhabitants of St. Pauls who feared the brick built sewers would not be sufficiently water-tight to prevent sewage leaking into and polluting their private wells. The inhabitants of St. Pauls claimed that they had been advised by an eminent London engineer that this would happen: the city Council called in the famous Mr. Bazalgette, engineer-in-chief to the Metropolitan Board of Works, who advised using concrete to get over the problem.[2]

Although the sewer-building programme was the Sanitary Committee's most striking achievement, it busied itself with many other problems, notably with Bristol's privies which certainly left a great deal to be desired when Mr. Clark had made his report to the General Board of Health in 1850. He instanced cases of one privy having to serve as many as sixteen houses and innumerable examples of foul and stinking ones constituting a menace to good health. Fifteen years later, however, in 1866, when Dr. Buchanan, on behalf of Sir John Simon, the celebrated Medical Officer to the Privy Council, investigated the effects of sanitary improvements in 24 towns, he was able to report that Bristol's poor had the use of better privies than in most other towns. This was due in no small measure to the rules drawn up and enforced by the Sanitary Committee.[3] It also waged a steady war against 'nuisances' detrimental

1. *Sanitary Committee Minutes*, 15 Dec. 1859 shows that by this time all but 844 of the 3,984 houses in the High and Low Districts of Clifton had been connected and 583 houses in Bedminster had been connected to the new sewer completed in 1857.
2. *ibid.*, 28 May, 11 June 1863.
3. These included making privies with a stone shoot and eject rather than an earthernware pan and trap. These were easier to keep clean. All inside privies were to be connected with the sewers and those outside were to be flushed with a bucket of water from the nearest tap. The Committee certainly used its powers under the Nuisances Removal Act of 1855 to take proceedings against owners of filthy privies. A typical example was an order of Oct. 1857 to Mr. Frederick Bull of North St. Bedminster requiring him to remove an offensive privy and build two new ones in its place with 9" stone ware pipes connected to the new sewer. (*See 9th Report of the Medical Officer of the . . . Privy Council*, p.p. 1867 xxxvii (3949) and *Sanitary Committee Minutes* 29 Oct. 1857).

to health, which in mid-Victorian terminology meant anything from overflowing cesspools and blocked drains to heaps of dung in the streets, pigs kept in houses or backyards, and filthy slaughter houses. Generally speaking the view was that if there was a bad smell then ill health followed directly and causally. As early as 1851 the Committee appointed Mr. Yeates to be their Inspector to investigate complaints about nuisances, and as time went on he was provided with a small but growing band of assistants. The legislature also helped by providing the Committee with stronger powers in prosecuting offenders. The cumulative effect of this unspectacular work was certainly substantial. Indeed it would seem that the very existence of the Committee and its active officers was often sufficient to bring about improvement without resort to the law. For example in 1858 upwards of 300 nuisances were dealt with without the need for legal proceedings, while 36 individuals were prosecuted.[1]

The Committee tackled the existence of numerous unregulated, insanitary slaughterhouses scattered about the city by making it an offence to establish one without its prior consent and it was ready to prosecute offenders.[2] The condition of the many overcrowded, disease-ridden common lodging houses, much used by migrants or by people passing through the city, was improved by enforcing special bye laws and by registration under the Common Lodgings Act of 1851. Failure to register led to appearances before the magistrates and often to enforced closure. Between 1853-4 no less than sixty four suffered this fate[3]. There was also a marked improvement in the collection of refuse and street cleaning. The Sanitary Committee hired local contractors to carry out the work but was careful to appoint Inspectors of Cleansing to report on it. Inefficient and negligent contractors were called before the Committee and fined when found at fault, unless extenuating circumstances existed. One contractor was let off with a caution when he gave as his excuse that 'it being Christmas time, the greater part of his men had gone away and got drunk and he could not get them to work.'[4] By the late 1850's cleansing of the main city streets was a daily routine and many of the courts and alleys of the poorest and most crowded districts had been provided with iron bins to take house refuse. In short, then, the Sanitary Committee was

1. *Sanitary Committee Minutes* (cited hereafter as *S.C.M.*) 2 Dec. 1858.
2. e.g. *S.C.M.* 21 Sept. 1854, 22 April, 1858.
3. *S.C.M.* 16 Sept., 1852, 1 Dec. 1853, 30 Mar. 1854.
4. *ibid* 3 Jan. 1856.

certainly making a substantial effort to make Bristol a cleaner and healthier place to live in.

Its indispensable ally was the Bristol Water Works Company established by a private Act of Parliament in 1846. By 1850, as Mr. Clark, the General Board of Health's inspector, noted, the Company had nearly completed 'the largest and most complete water works by natural pressure, or very nearly so, up to this time constructed' in the country. No doubt the really parlous state of Bristol's existing water supplies, already referred to, accounted for the Company's ambitious plan to draw its supply from three main sources in Somerset well outside the city, namely, the Cold Bath Spring at Barrow Gurney, the spring at Harptree Combe and the Watery Combe Springs at Chewton Mendip. The springs had a total catchment area of nearly 50 sq. miles in a district where the rainfall averaged 41 inches annually. They gushed from underground reservoirs formed in the fissures and caves of the carboniferous limestone of the Mendips and their estimated yield was 4 million gallons daily, about double the quantity which was then supposed to be required by Bristol.[1]

Bringing the water to the city, however, took time and considerable engineering works. Moreover, like the proverbial horse, the Bristolian was not always ready to drink when the water arrived in spite of the enthusiasm of one local newspaper which commented 'we are bold to say that few events of greater importance have ever befallen the city of Bristol than the completion of their main line of aquaduct by Bristol Water-Works Company on the first of May last. On that day, a torrent of water was made to rush from a ravine in the Mendips over fifteen miles of hill and dale through its new channel into the streets of Bristol.'[2] In fact at this date, 1850, only some 3,152 houses were connected to the new supply and these were almost entirely the homes of the better-off. It was estimated that only 7.8% of the houses rented at or below £10 per year—the homes of 'the labouring poor'—received Company's supply.[3] Landlords did not fall over themselves to provide this for poorer tenants. Nonetheless, gradually this reluctance was overcome and by 1866 Dr. Buchanan was able to report to Sir John Simon that nearly every house in Bristol had a supply of the Company's water.[4] And it was a pure and abundant supply. Dr. William Budd (of whom more later), a member of the first

1. F. C. Jones, *The Bristol Water-Works Company, 1846-1946.*
2. *The Bristol Times,* 8 June 1850.
3. G. T. Clark, *op. cit.*
4. *9th Report of the Medical Officer of the . . . Privy Council, op. cit.*

Board of Directors of the Company, had insisted that in the interests of health the Company must get its water from a source beyond all possible reach of pollution by sewage. This it had done. He also insisted on the constant pressure system which meant that water was always on hand when needed, which was far from the case with supplies in many other towns at the time. Budd, indeed, was prepared to claim that in quality the Company's supply was second to none in the kingdom. Certainly to present-day eyes its water rates appear unbelievably low and were carefully graduated to take into account ability to pay. With a house rent of £5 a year you paid 1/3d. a quarter; for a house rent of £8 a year, 2/- a quarter; for a house rent of £20 a year, 5/- a quarter, and for a house of £50 a year 10/- a quarter.[1]

Yet when all is said the Sanitary Committee and the Water Company, valuable as their contribution undoubtedly were, could not and did not solve more than a fraction of Bristol's public health problems. Their measures, inevitably, took effect gradually. Consequently severe epidemics, even of the diseases which their methods would eventually eradicate, continued to occur and the mortality rate did not decline overnight. Then, too, there were problems such as gross overcrowding both within houses and of dwellings per acre which their remedies could not overcome. It must also be remembered that the current state of both medical and engineering knowledge imposed considerable limits on what could be done. For example, the single most potent killing disease in mid-Victorian England was tuberculosis[2] but it was not until 1882 that its bacillus was first identified and it was not until the 1940s that any significantly effective drug was available to counteract it. Sanitary measures of the kind we have been describing had no discernible effect in reducing the death rate from T.B.[3] Moreover, even when an experienced and careful observer with a scientific training did manage to make a valuable discovery he was far from being able to count on convincing others that this was indeed the case.

Most of these points may be illustrated by the third epidemic of cholera which Bristol faced in 1854. The Sanitary Committee's measures had not yet made much impact at this time, especially in

1. F. C. Jones, *op. cit.* p.23.
2. See T. McKeown and R. G. Record, *Reasons for the decline of mortality in England and Wales during the nineteenth century* in *Population Studies* XVI (1962) p. 102 for a valuable table giving the number of deaths per million of the population attributable to various diseases decade by decade from 1851-1900.
3. Nor did contemporary therapies.

the districts in the valley of the Frome, and great were the complaints from local inhabitants. An example was from one signing himself St. Philip's Freeman to *The Bristol Times* (spelling and punctuation as in the original).

> 'Mr. Editor,
> I hopes you woant take amiss what I says, but I should uncommon like to know what our counsellor and alderman for St. Philip's is doing ... theres the cholera acoming, and the stink under my windows is worse than ever. I lives in front of the Frome ... Now I say this stink is a shame, because if the counsellors was to tell the meetings has is there duty what a stink we have got down here, why the Corporation would make big gouts all allongside the river to carry away the dirt instead of putting into a river whats dried up once a week. I should main like his Worshipe the Mayor to come and smell it of a Sunday, if it dident do he good, perhaps twood the city for then he'd talk about it and when he do talk he do talk like a good un. I ask your pardon Mr. Editor for writing to a gentleman like you.'[1]

The St. Philip's Freeman in fact would have had to wait until the early sixties before part at least of the Frome's course in the city centre was covered in and new sewers for that district were completed. And certainly, at this stage, many houses were as yet unconnected with the Water Company's excellent water. As it was, cholera flourished and the Sanitary Committee tried to cope with it by traditional means, cleansing and liming the houses in which cases had occurred and disinfecting the privies and drains in the neighbourhood while the poor victims suffered what has been called 'beneficent homicide' by being treated in precisely the opposite way to that most likely to aid them, i.e. by dehydration rather than making good the great loss of liquid from which the cholera patient characteristically suffers.[2] As it happened, however, there lived in Bristol, a local doctor, William Budd, who some years earlier, in 1849, had propounded a theory about the transmission of cholera and how to prevent it spreading and who was in 1854 putting his theories into practice, notably in treating cases at Horfield Barracks. And it is to his contribution to the improvement of Bristol's public health that we now turn.

William Budd (1811-1880) was the son of a well-to-do surgeon of North Tawton in Devon. He studied medicine at Paris, Edinburgh and the Middlesex Hospital and at least three of his eight brothers graduated as doctors. He settled in Bristol in 1842 obtaining the post of physician at St. Peter's Hospital which housed the Corporation of the Poor's infirmary. In 1847 he was elected

1. *The Bristol Times*, 2 Sept. 1854.
2. N. Howard-Jones, *Cholera therapy in the nineteenth century*, in *Journal of the History of Medicine*, XXVII (1972) pp. 373-395.

physician to the Bristol Royal Infirmary and was also a lecturer at the Bristol Medical College from 1845 until 1855. He had interested himself in public health questions, giving evidence to the Royal Commission on the state of the Larger Towns in 1845, and in 1847 he had shown by a careful investigation that an outbreak of typhoid in Richmond Terrace, Clifton was traceable to a supply of infected water. But it was during the cholera epidemic of 1848 that he first expounded the germ theory as an explanation of the transmission of the disease. In a paper entitled *'Malignant Cholera, its mode of propagation and prevention'* he argued that the disease was caused by a living organism of a particular species which was carried into the body by various agencies, chiefly drinking water, which had been contaminated by the excreta of a cholera victim.[1] It seems fairly clear that Budd arrived at his conclusion quite independently of Dr. John Snow whose famous work *'On the mode and communication of cholera'* was published very shortly before Budd's paper so that credit for the discovery that the cholera vibrio was water borne should belong jointly to them, although Dr. Snow has undoubtedly been granted more of the credit by posterity.[2]

Budd's theory led him straight to the preventative measures he practised in 1854. The basic aim was to prevent the excreta of a patient suffering from the disease being disseminated in any possible way. All discharges from the patient were to be disinfected as were all drains and privies that might come into contact with such discharges. All bedding or clothing of the patient was to be either treated with powerful disinfectants or burned. In fatal cases the corpse should even be wrapped in its own sheets and embedded in MacDougall's powder in the coffin. Above all, however, Budd emphasised the importance of pure water supply since if the water supply was infected no amount of disinfecting would prevent the spread of the disease.[3]

In 1854 Budd was still a pioneer. His theory was by no means widely accepted for it ran counter to generally held views about the origins of such fevers as cholera, typhoid or typhus. Most, al-

1. Biographical information can be found in his obituary notice in *The Bristol Times and Mirror*, 12 Jan. 1880, in Dr. R. C. Wofinden, *Public health in Bristol, some historical aspects*, in *Public Health*, Mar. 1956, pp. 124-129, and E. W. Goodall, *William Budd* (Bristol, 1936).
2. N. Longmate, *King Cholera*, p. 210 suggests that this was due to Snow's friend Benjamin Richardson popularizing his claim shortly after Snow's death in 1858.
3. Budd's views were summed up in his own publication, *Asiatic cholera in Bristol in* 1866 (Bristol, 1871).

The following simple Remedy has been found very useful in cases of

Cholera.

Take in a table-spoonful of Brandy, as much powdered Rhubarb as will lie on a shilling.

Make a strong tea of camomile flowers, mallows, and mint, either dry or green, and take a tea-cupful frequently.

Get two pieces of wood,* each six inches square, and one inch thick, place one of them against the bars of the fire grate, or in a heated oven, till quite hot, wrap it in a flannel and lay it on the bowels. Heat one while the other is cooling.

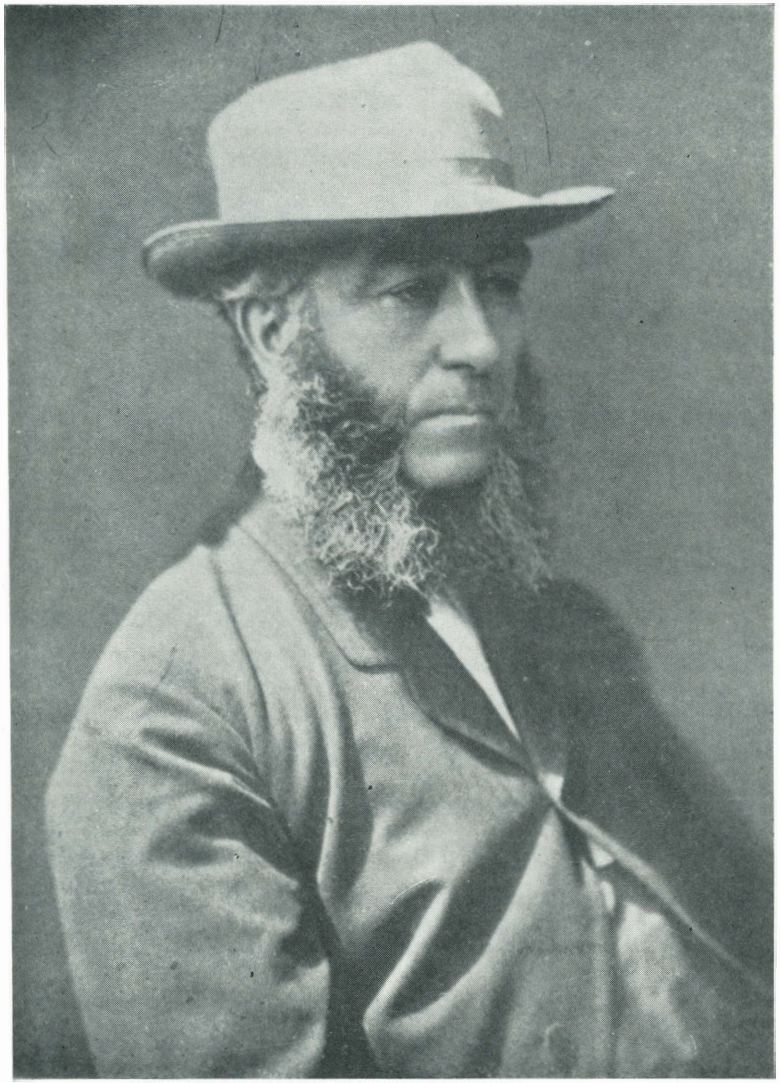
It is strongly recommended that the above articles be procured in every family for immediate use, in case of attack of the bowels.

***N.B. If wood cannot be got, two pieces of Tile will do.**

Committee Room, Kingswood Hill,
7th January, **1834.**

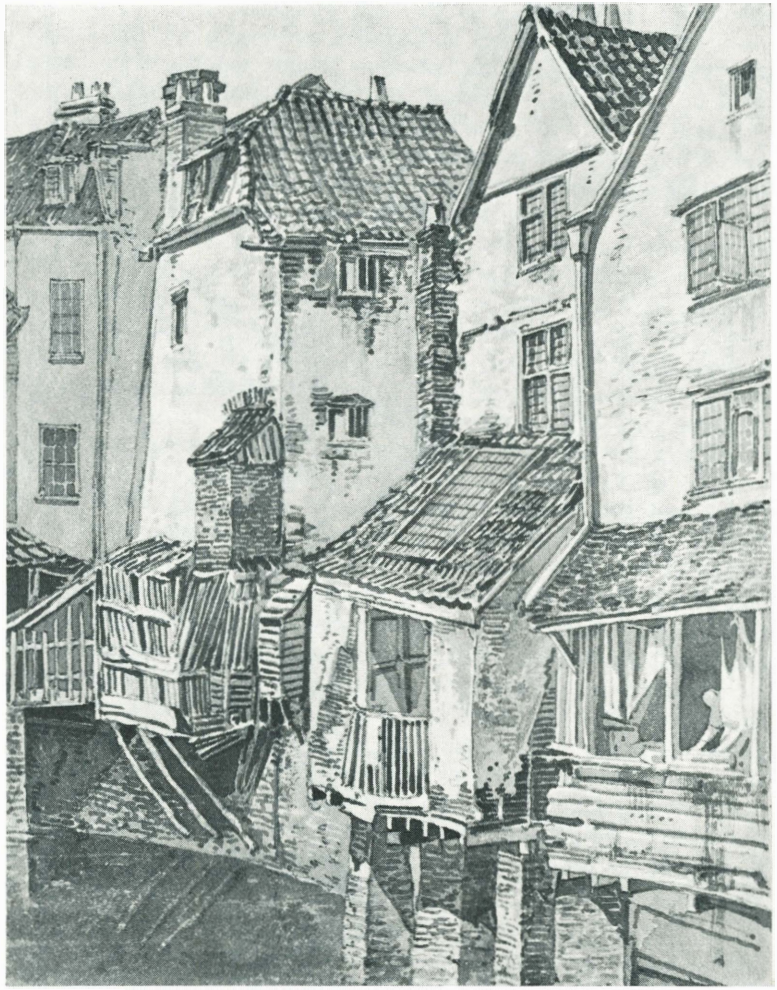
A pre-sanitary reform remedy for cholera.

By courtesy of Avon County Library.



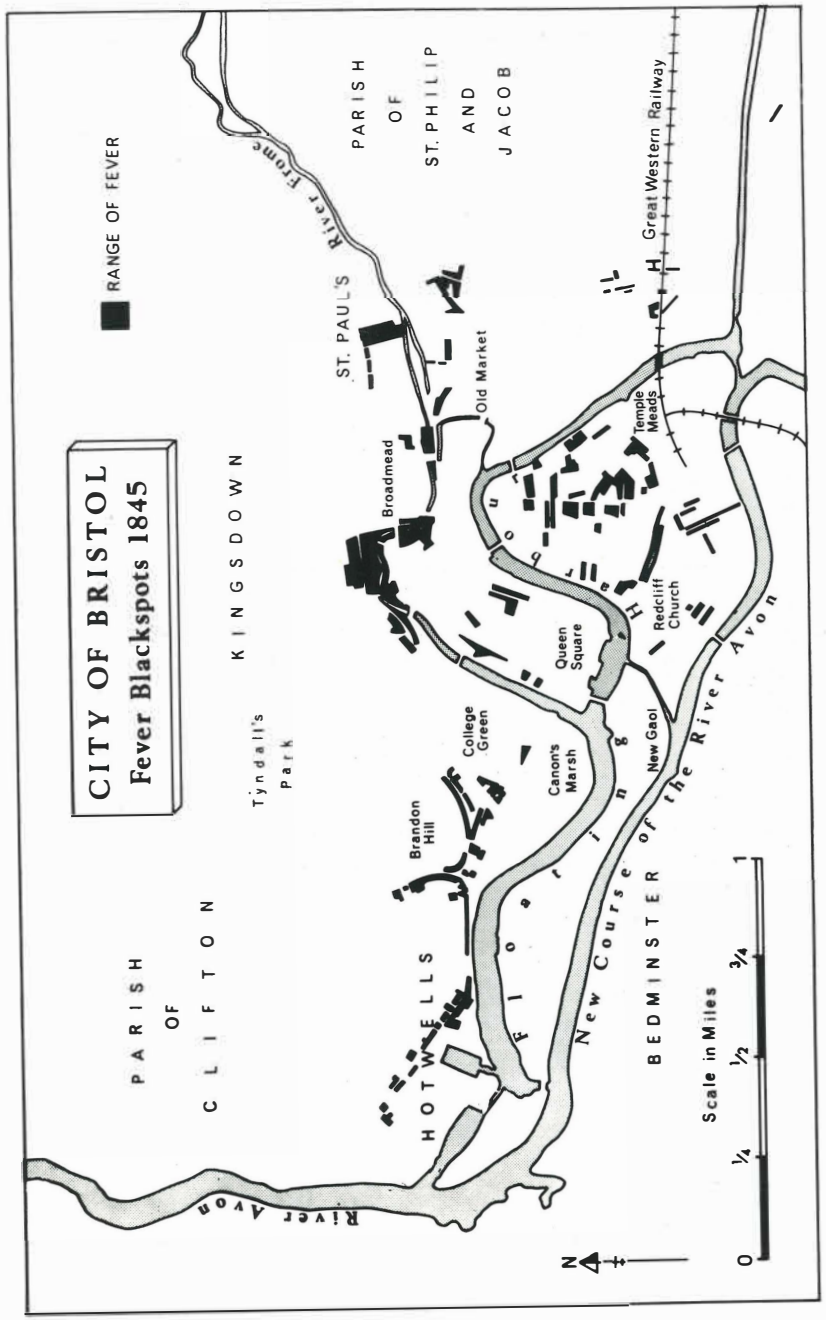
William Budd

from E. W. Goodall's biography of William Budd.



Housing along the River Frome in the early nineteenth century.

By courtesy of the City Museum and Art Gallery.



From the frontispiece map in Sir Henry de la Beche's *Report on the state of Bristol*, 1845.

though not all, doctors and leading sanitary reformers on the national scene, such as Edwin Chadwick and Dr. Southwood Smith, believed in the 'miasmatic' origin of such diseases, that is to say that they were directly and spontaneously caused not by specific 'germs' but by poisonous exhalations arising from decomposing animal or vegetable matter collected in dungheaps, overflowing cesspits, blocked drains or privies, household refuse and so forth. So that if you removed these and ensured that the air was kept sweet and in motion by adequate ventilation then you would eliminate the fevers. Banish all foul smells and live in a perpetual draught and you would then not contract fever was the prevailing doctrine,[1] as William Budd was only too well aware. Following the 1854 epidemic, which had only strengthened his belief that his own theory was correct, he wrote a series of letters to *The Medical Association Journal* arguing the case for the view that cholera was caused by a specific organism entering the body chiefly through infected water and that the remedy lay in strict disinfection coupled with ensuring an unpolluted water supply.[2] He was, however, largely unheeded and this continued to be the case throughout the later fifties and early sixties. Budd was not deterred. In addition to his studies of cholera he paid a great deal of attention to the much commoner disease of typhoid on which he was to publish his *magnum opus, Typhoid fever, its nature, mode of spreading and prevention,* in 1873. As early as the mid-forties he had arrived at the correct conclusion, independently of others, that typhoid and typhus were two distinct diseases, and eventually he had come to believe that typhoid like cholera originated from a specific organism or 'germ' which was carried in water and which should be tackled by similar methods of insisting on the purity of water supplies and the strict disinfection of patients and their surroundings. Budd's work was backed by careful, methodical observation and sound reasoning[3] which gave him a confidence which no doubt explains why his obituary referred to him as 'a very bold man in propagating his views.' Nonetheless in the late fifties and early

1. For an excellent concise discussion of contemporary views on the diffusion of disease see pp. 62-4 of M. W. Flinn's introduction to his edition of Chadwick's *Sanitary Condition of the Labouring Population* (Edinburgh, 1965).
2. See *Medical Association Journal* (1855) p. 283 for his labours at Horfield Barracks.
3. Sir Arthur Newsholme in his *Fifty years of Public Health* (1935) singled out Budd as one of those who 'lifted preventative medicine on to a higher level, placing it on a foundation of exact epidemological research.'

sixties not many listened and his letters and papers tended to be buried in the files of *The Lancet* and *The British Medical Journal*, such was the popularity of the miasmatic theory.

However William Budd was destined to see his views listened to and acted upon with great benefit to Bristol from the mid-sixties onwards thanks to a crisis that occurred in 1864 and which led directly to the appointment of the city's first M.O.H., David Davies, who was to be a firm ally of William Budd. The crisis of 1864 consisted of a severe epidemic of typhus which in the autumn and winter swept the poorer parts of the city. The disease had been introduced from Ireland in April and began to spread from house to house in the parish of St. Philips and then into adjacent parishes. It appears to have taken its highest toll in St. Judes where cases were to be found in nearly every house. By the end of the year, 1,500 cases had been recorded of which 150 were fatal. In December the disease was so widespread that *The Bristol Times* commented, 'it has become a matter of public necessity to endeavour to arrest its progress.'[1]

The epidemic certainly exposed the inadequacy of current efforts to improve Bristol's public health. It was not until January 1865 that the Sanitary Committee began to be seriously concerned about the epidemic while the Poor Law authorities were plainly overwhelmed by the problem of trying to find hospital accommodation for the hundreds of poverty stricken typhus patients who applied to them for relief. The Corporation of the Poor, responsible for such cases in the old city, found their infirmary at St. Peter's Hospital full to overflowing and their surgeon Mr. Mayor and the surgeons of the Dispensaries, unable to cope with the problem, sought help from the Poor Law Guardians of the neighbouring Clifton Union, asking them to provide for a temporary fever hospital. The Clifton Guardians were sympathetic but unable to find a suitable empty building and only had room in their own infirmary for a few cases. A proposal that fifty or sixty patients might be accommodated in wards for 'lunatics' which happened to be vacant at St. Peter's Hospital was rejected by the Corporation of the Poor on the grounds that there was too much risk of spreading the disease further.[2] In desperation in January 1865 the Sanitary Committee[3] was called upon either to provide a place of isolation itself for typhus patients or to coerce the Poor Law authorities into doing

1. *The Bristol Times*, 17 Dec. 1864.
2. *The Bristol Mercury*, 17 Dec. 1864 and *The Bristol Times and Mirror*, 28 Jan. 1865.
3. *S.C.M.* 19, 21 Jan. 1865.

so. The Sanitary Committee decided on the latter course and threatened to apply to the Privy Council for an inquiry into the hospital accommodation in the city if the Poor Law authorities did not act. The Clifton Guardians, far from resenting the threat, welcomed the idea of an inquiry and, in fact, advice from the government was at hand since on 26 January 1865 Dr. Buchanan arrived in the city at the request of Sir John Simon, Medical Officer to the Privy Council. He was employed on part-time work by Sir John and he already had experience of typhus epidemics for he had been dispatched to inquire into one which afflicted Lancashire in 1862 during the cotton famine.[1]

Buchanan proceeded to visit the typhus-stricken districts and tried to settle the question of hospital beds by declaring that the vacant wards at St. Peter's Hospital were the most suitable for treating typhus cases but that if the Corporation of the Poor were adamant in their refusal of these facilities, then alternatives must be found such as the poor law school buildings of the Clifton Union. Taking advantage of the weak position that the Sanitary Committee was in because of its tardiness in recognising the seriousness of the epidemic, Buchanan then firmly recommended a four point course of action. First, the Committee should appoint 'a competent medical practitioner' to inspect and advise them on the needs of the fever districts and to carry out all the other functions vested in a Medical Officer of Health by the Public Health Act of 1848. Secondly, the Committee should employ inspectors to carry out house to house visitations of the fever districts and report daily to the M.O.H., removing cases of fever and 'nuisances' under his directions. 'Each inspector,' wrote Buchanan, 'should have under his charge a definite set of houses, not above 300 in number, he should go through them again and again and should at present have no other duty . . . besides procuring the abatement of more obvious nuisances, giving special attention to the ventilation, cleansing and disinfection of houses and to preventing their being overcrowded.' Thirdly, the Committee should authorise its officers to take immediate action against every case of 'nuisance' and should be prepared to cleanse and purify premises whenever landlord or occupant was slow to do so. And lastly, the Committee should advise people living in the fever districts about the need

1. **Dr. G. Buchanan (1831-1895) had served as resident medical officer at the London Fever Hospital and as Medical Officer of Health to the Vestry of St. Giles, most notorious of London rookeries. He eventually** became a permanent inspector to the Privy Council and then in 1879 Principal Medical Officer to the Local Government Board. He was knighted in 1892.

for sanitary precautions and the importance of removing typhus cases to hospital in their earliest stages. This, Dr. Buchanan suggested, could be done by the M.O.H. on his visits and also by distributing among the poor a handbill drawn up by him.[1]

Buchanan's advice in regard to appointing a Medical Officer of Health was no easy pill for the Committee to swallow since it had been its settled policy to regard this as unnecessary, primarily no doubt on grounds of expense. As early as September 1852 it had discussed the possibility but resolved by nine votes to three that it was 'not expedient' that they should advise the City Council to appoint such an officer. And in this opinion it persisted. In 1860 the Committee had even resolved that an attempt to make the appointment of medical officers compulsory was 'inimical to the workings and interests of Local Boards of Health.[2] Bristol was by no means unique in refusing to appoint an M.O.H. An investigation of how many medical officers were appointed between 1848 and 1855 in the 196 towns and districts which had adopted the 1848 Act which permitted such an appointment shows only 35 appointments can be claimed with certainty.[3] Resistance to the novel idea was widespread. And a survey of 1866 reinforces this view: it claimed that out of 570 towns examined, only 92 had appointed medical officers and that many large towns, including Birmingham, Manchester, Sheffield and Newcastle, had yet to do so. Nevertheless under the stress of the typhus epidemic and Dr. Buchanan's firm prodding, the Sanitary Committee reversed its policy and on 3 Feb. 1865 decided to appoint Dr. David Davies as Bristol's first M.O.H. Clearly the Committee was only half convinced: he was at first appointed on a six monthly renewable basis and his salary was only £75 for six months work.[4]

In fact, however, his labours soon proved so necessary and valuable that both he and his office became a permanent part of the public health system in Bristol and it is clear that his appointment marked as important a turning point in Bristol's sanitary progress as the founding of the Water Company in 1846 or the establishment of the Local Board of Health in 1851. Davies set to work immediately and established an organization similar to that

1. *S.C.M.*, 3 Feb. 1865.
2. *S.C.M.*, 23 Sept. 1852, 3 May 1860.
3. C. Fraser Brockington, *Public Health in the nineteenth century* (1965), chap. iv. Both this author and Dr. R. C. Wofinden, *op. cit.* have come to the conclusion that it is not possible to decide one way or another as to whether Dr. Samuel Goldney was appointed as a Medical Officer to the Local Board of Health in 1851.
4. *S.C.M.*, 3 Feb. 1865. By Feb. 1866 the £75 had been increased to £100.

suggested by Dr. Buchanan. He certainly did not spare himself: in one morning he found 150 cases in a locality where typhus was more or less endemic. Influenced by the views of William Budd he was a great believer in the liberal application of disinfectant in the stricken areas, believing that this would destroy the germs as they issued from patients. He described his measures to combat the epidemic in the following words.

> 'A temporary fever hospital having been erected by voluntary contribution, I insisted on the removal of every typhus patient, or his isolation in such a manner as not to be dangerous to the health of others. All infected rooms were fumigated. All infested clothing was destroyed. All privies in the infected districts were flushed and disinfected with chloride of lime. . . In three months typhus in its epidemic form was eradicated . . . All defective drains were remedied, dirty houses informed against and cleansed at the expense of landlords . . . and cases of overcrowding reported.'

The organization developed by the vigorous Davies to deal specifically with the typhus epidemic was extended by him to the whole city and became a distinctive feature of Bristol's sanitary system. The city was divided into four districts each with its inspector and two assistants to carry out the orders of the M.O.H. The cleansing of privies and the limewashing of houses in the poorer districts was regularly attended to.[1] Davies met all the inspectors every morning at 11 a.m. to receive their reports and give them directions. 'Through them', he wrote, 'I am daily informed of the state of the general health.' He went on to comment on their recruitment, 'they are taken, as a rule, from the detective constables who are favourably known to the Watch Committee many of whom are on the Committee of the Board of Health. They are all very able men and know everybody and everything in the city within their duties and so sharp that nothing escapes them.'[2] Not surprisingly, contemporaries described them as 'a sanitary detective force . . . who have arrested disease on suspicion of being on the premises for unlawful purposes and forthwith run it in.'[3] Davies himself kept a daily journal which was read every week at the meeting of the Sanitary Committee.

There can be no doubt that the appointment of the M.O.H.

1. A. P. Stewart and E. Jenkins, *The Medical and Legal Aspects of Sanitary Reform* (1867 and reprint by Leicester U.P. 1969).
2. *The homes of the Bristol Poor* (Bristol, 1884). This report was the result of an inquiry sponsored by *The Bristol Mercury and Daily Post.*
3. A. P. Stewart and E. Jenkins, *op. cit.*

made an immediate impact on sanitary administration for when Dr. Buchanan made a return visit to Bristol in 1866 he noted that many improvements which he described had been carried out in the past year. For instance the Sanitary Committee was displaying a new vigour in using its powers to proceed against landlords who failed to provide sufficient and properly constructed privies or to have them connected with the main sewers. This was in no small measure due to the information the M.O.H. supplied, backed by his professional authority. Likewise the Sanitary Committee took more vigorous action than ever before to complete the paving and draining of the courts of the city so that Dr. Buchanan in 1866 was able to report that 'there appears to be no place in which these requisites for external cleanliness are not in a satisfactory condition.'[1] But the most dramatic demonstration of how effective the Sanitary Committee and the M.O.H. using the methods advocated by William Budd could be, came in 1866 when Bristol was once again subjected to the scourge of epidemics of both cholera and typhus.

Bristol's success in fighting both diseases was indeed dramatic. While much of Europe and many British cities suffered severely—over 400 died in Swansea of cholera, for instance, and thirty in the small town of Glastonbury—cholera entirely failed to spread in Bristol, even though as a port it was in constant communication with badly-infected areas such as South Wales. On 23 April 1866 a sailor just returned home to Bristol accounted for the first case in the city. The M.O.H. at once saw to it that William Budd's preventive methods were fully applied and no further cases occurred until late July and then in a completely different part of the city. Immediately the Poor Law authorities set up depots of disinfectants to be distributed free and encouraged people to disinfect closets and privies night and morning. From the beginning of May onwards the Sanitary Committee saw to it that the main sewers were constantly disinfected in all the lower levels and threatened districts. Fourteen cholera cases in which a thorough disinfection was at once carried out were completely without issue of further cases, but in twelve where there was some delay in this treatment there were additional cases either in the same house or the immediate vicinity. But altogether there were only 49 cases of which 29 were fatal. The preventive measures had clearly been a great deal more effective than ever before and the additional cost to the ratepayer had been a mere £600. William Budd was justified to the hilt in commenting that this was 'a small rate of insurance for a city of

1. *9th Report of the Medical Officer of the ... Privy Council, op. cit.*

nearly 180,000 inhabitants to pay against such a terrible scourge.' Indeed it had brought about a spectacular reduction of Bristol's death rate from cholera from the 82 per 10,000 inhabitants in 1849 to 1½ per 10,000 in 1866. Improved water supplies and sanitation alone could not have accounted for this and Budd could be justifiably proud that his preventative measures had helped to save lives. As he put it 'the seed had been destroyed and the crop has failed'. Nor did he omit to pay tribute to the vigilance and energy of the M.O.H. 'Whenever intelligence reached him', wrote Budd, 'of a case, by day or by night, scarcely an hour was allowed to pass before this conscientious officer was on the spot with his staff and he never left it before the right thing was thoroughly done.'[1]

It may also be noted that Davies was given additional help during the cholera crisis by 'The Sanitary Mission' organized by Canon Norriss's wife and financed by public subscription. It had begun in 1865 when one woman had been employed to work as 'a sanitary missionary' among the poor of St. Judes. It was reported that 'she spends about six hours daily in the district, visits from house to house, selecting the dirtiest and most needy for special attention. She has a supply of buckets, brushes etc. to lend to those who cannot procure them otherwise. In the year of the cholera this work was expanded until by August 1866 there were fourteen women sanitary missioners, receiving instructions from the M.O.H. and distributed throughout the city in the districts most threatened by cholera. The use of women in this way may be seen as the early beginnings of today's health visitors. Bristol indeed was only a few years behind the pioneers, Manchester and Salford, in seeking to provide help and advice in the home about health matters through the visits of women working in conjunction with the M.O.H.[2]

The triumph over cholera was repeated in the same year, 1866, when in September typhus once more appeared in the city. Cases were hunted down and no epidemic ensued. *The Times* described the process thus: "Mr. Davies has triumphed over nearly every obstacle and has carried nearly every point. He has hunted down disease with the keenness and perseverance of a bloodhound and with the ardour and sagacity of a blood sportsman, convincing where he could not compel, persuading where he could not con-

1. *The 9th Report of the Medical Officer of the ... Privy Council, op. cit.*; William Budd's, *Asiatic cholera in Bristol in* 1866, and the contemporary press are the best sources for the history of the epidemic.
2. *The Bristol Times and Mirror,* 18 Aug. 1865 and Dr. R. C. Wofinden, *op. cit.*

vince.'[1] As a result of William Budd's work, disinfection had become the creed of the sanitary officials and the stink of sewage and filth prevalent in the 1840s had been replaced by the smell of carbolic acid regularly poured into drains and closets by 'sanitary labourers' as *The Times* called them. The general notion, not without merit, that filth caused unhealthiness, was supplemented by the belief that specific organisms caused disease and these must be attacked and killed. The success in combating cholera and typhus in 1866 by such methods was indeed a significant tribute to their effectiveness.

However, it would be quite wrong to imagine that with one battle won the war was over. Indeed in maintaining a good health record for a city the war is never over. And certainly there were a multitude of problems still to be faced in the late sixties. Bristol was then growing very rapidly: between 1861 and 1871 the population increased by almost a quarter (22.3%), this being the most rapid rate of growth of any decade in the nineteenth century. Among other effects this brought a greatly increased demand for water supplies and, in spite of the great improvements made by the Water Company since the 1840s, water did run short in the city on occasions in the 1860s, notably in 1864, coinciding with the typhus epidemic. In that year a drought of unprecedented severity in the summer and early autumn caused some of the Mendip springs to dry to a trickle and in some parts of the city the Company's supply ceased altogether. In October the Sanitary Committee undertook to re-open the springs at Clifton and for a time the Boiling Well became the only source of a limited supply for that district. The crisis was eventually overcome. The Company in 1865 obtained Parliamentary sanction to increase its sources of supply by pumping water from deep in the red sandstone at Chelvey, nine miles west of Bristol. A storage reservoir was also built at Knowle in 1865-6 and eventually by further works sanctioned by Acts of Parliament of 1872 and 1882, an adequate water supply was once more secured for the city.[2]

Furthermore, it must be remembered that although growth of mid-Victorian Bristol's population was to a large extent catered for by rapid expansion of the suburbs, especially in the parishes of Bedminster, St. Georges and Stapleton, and although there was some migration outwards from the old city which meant the beginning of an absolute and permanent decline in its population,[3]

1. *The Times*, 18 Oct. 1869.
2. F. C. Jones, *op. cit.*
3. See F. Hewitt, *Population and urban growth in East Bristol*, 1800-1914 (Ph.D. thesis, Bristol 1965).

nevertheless there still remained at the end of the sixties a mass of densely inhabited overcrowded courts and alleys in which disease could flourish. Such conditions particularly favoured T.B., typhus and many skin complaints, for these could so easily be passed from one person to another. A great deal remained to be done before overcrowding could be reduced and as yet attempts to solve the problem had been very limited indeed.[1] Furthermore, while the general death rate had shown a welcome fall the average age of death of Bristolians still remained at less than half of what it is at present and the mortality rate of infants was appallingly high by modern standards, thanks to very low standards of child care in many families, infected milk and so forth. And, of course, as previously noted, there remained the immense scourge of T.B. not to mention, measles, diphtheria and whooping cough all of which were responsible for considerable numbers of deaths each year.[2]

Nevertheless the mid-Victorian era had witnessed no mean improvement in Bristol's public health. In the first stage between 1851 and 1865, largely due to the work of the Sanitary Committee and the Water Company, products essentially of the agitation for sanitary reform of the 1840s, the general mortality rate had fallen from 28 to 26 per thousand in 1865. Then when the progressive and energetic Mr. Davies came on the scene, applying William Budd's ideas on disease prevention, the death rate had fallen from 26 per thousand in 1865 to 22 in 1869. And, as Budd pointed out in his evidence to the Royal Sanitary Commission, Bristol had made 'a first rate bargain in point of £ s d' since the reduction in disease had led to a fall in the poor rate.

Was there a moral to be drawn from Bristol's experience? William Budd had no doubt that there was. In a paper read at the annual conference of *The National Association for the Promotion of Social Science* which in 1869 was held at the Victoria Rooms, Bristol he argued on the basis of Bristol's experience, that 'our present government machinery must be greatly enlarged and endowed

1. The history of street improvements which reduced the number of courts and alleys can be traced in *Improvement Committee Minutes* and in the *8th and 9th Annual Reports of the Local Government Act Office on the execution of the Local Government Act* (1858).
2. See e.g. *31st Annual Report of the Registrar-General of Births, Marriages and Deaths* (P.P. 1870 c. 97) which shows that in the registration districts of Bristol, Clifton and Bedminster (ie. covering the built up area) in 1868 there were 498 deaths from T.B.; 163 from measles; 114 from whooping cough; 31 from diphtheria, not to mention 189 from 'violence', 275 from 'diarrohoea' and no less than 746 from diseases of the 'respiratory organs'.

with new powers, with powers above all to abrogate finally and at once the permissive character of our present sanitary legislation, to do away . . . once and for all, with that form of liberty to which some communities appear to cling with such tenacity, the sacred liberty to poison not only themselves, but their neighbours also.'[1]

As he put it to the Royal Sanitary Commission, 'the happy condition of Bristol is merely an illustration of the condition into which the whole country might be brought if the local authorities exercised their functions properly.'[2] In short, 'the plain lesson of Bristol' was that other local authorities should be compelled by law to follow her example.[3] No greater praise than that was possible for those who had laboured in this particular vineyard.

1. William Budd, *Can the government further beneficially interfere in the prevention of infectious diseases?* in *Tranactions of the National Association for the Promotion of Social Science* (1869) p.p. 386-402.
2. William Budd's evidence: see *Second Report of the Royal Sanitary Commission* (1869-71), Vol. iii, part I.
3. *The Times*, 21 Oct. 1869.

BIBLIOGRAPHICAL NOTE

Remarkably little has been written in recent times about the history of public health in Bristol. Dr. R. C. Wofinden published a valuable brief article in *Public Health* (Mar. 1956) and the City's Health Committee celebrated the centenary of Davies's appointment as the first M.O.H. with a potted history in brochure form. Only F. C. Jones in *The Bristol Water Works Company* 1846-1946 has made an extended contributioin. Brief references to Bristol occur also in leading modern works such as Royston Lambert's fine biography of *Sir John Simon* (1963), R. A. Lewis's *Edwin Chadwick and the Public Health Movement*, 1832-1854 (1952), and C. F. Brockington's, *Public Health in the nineteenth century* (1965). Essentially however, the story has to be reconstructed from the twelve volumes of the Sanitary Committee's Minute Book (in Bristol City Archives) which cover this period, with limited help from the Improvement Committee's Minute Book, the Public Baths Committee Minute Book and the Proceedings of the Council, all in the City Archive Office. The local press, of course, is a valuable source, particularly when epidemics or controversies or both raged. Other important local sources are the pamphlets and reports often compiled by local doctors examples of which are referred to in the notes. Finally, a mass of information can be gleaned from both the printed and manuscript reports and proceedings of the various agencies of central government which were concerned with public health. We have made some use of this material but we would not claim to have been exhaustive. References to Bristol turn up quite often in the *Annual Reports of the Registrar-General of Births, Marriages and Deaths* throwing light on particular indicators of the state of her public health; the annual *Reports of the Medical Officer to the Privy Council* likewise contain material on Bristol's sanitary condition from time to time as do the reports submitted to and by the *General Board of Health* and the annual reports of that curious department, *The Local Government Act Office*. And, of course, the state of Bristol was also inquired into by major Royal Commissions in the course of compiling nationwide surveys. In this period *The Royal Commission on the state of the larger Towns* (1844-5) and *Royal Sanitary Commission* (1869-71) are the prime examples. And finally let us hope that one day someone will undertake the daunting task of a thorough examination of the Ministry of Health records in the Public Record Office both in regard to the operation of the poor law and of public health affairs for we suspect that this might cause us to wish to amend parts of this pamphlet.

BRISTOL BRANCH
OF THE HISTORICAL ASSOCIATION

LOCAL HISTORY PAMPHLETS

1. *The Bristol Hotwell* (out of print).
2. *Bristol and Burke* by P. T. Underdown (out of print).
3. *The Theatre Royal: first seventy years* by Kathleen Barker 20p.
4. *The Merchant Venturers of Bristol in the Fifteenth Century* by E. M. Carus-Wilson (out of print).
5. *The Port of Bristol in the Eighteenth Century* by Walter Minchinton (out of print).
6. *Thomas Chatterton* by Basil Cottle (out of print).
7. *Bristol and the Slave Trade* by C. M. MacInnes 15p.
8. *The Steamship Great Western* by Grahame Farr 30p.
9. *Mary Carpenter of Bristol* by R. J. Saywell 13p.
10. *The Chartists in Bristol* by John Cannon 13p.
11. *The Steamship Great Britain* by Grahame Farr (out of print).
12. *Ferdinando Gorges and New England* by C. M. MacInnes 15p.
13. *The Port of Bristol in the Middle Ages* by J. W. Sherborne 25p.
14. *The Theatre Royal* 1834-1943 by Kathleen Barker (out of print).
15. *The Bristol Madrigal Society* by Herbert Byard 15p.
16. *Eighteenth Century Views of Bristol* by Peter Marcy 15p.
17. *Early Bristol Quakerism* 1654-1700 by Russell Mortimer 15p.
18. *The Industrial Archaeology of Bristol* by R. A. B. Buchanan 15p.
19. *Captain Thomas James and the N.W. Passage* by C. M. MacInnes 15p.
20. *The Anti-Slave Trade Movement in Bristol* by Peter Marshall 18p
21. *Sebastian Cabot and Bristol Exploration* by David Quinn 25p.
22. *The Romans in the Bristol Area* by K. Brannigan 20p.
23. *Prehistoric Bristol* by L. V. Grinsell 20p.
24. *Medieval Churches of Bristol* by M. Q. Smith 20p.
25. *John Whitson and the Merchant Community of Bristol* by Patrick McGrath 20p.
26. *Nineteenth Century Engineers in the Port of Bristol* by R. A. Buchanan 20p.
27. *Bristol Shipbuilding in the Nineteenth Century* by Grahame Farr 25p.
28. *Bristol in the Early Middle Ages* by David Walker 25p.
29. *Bristol Corporation of the Poor* 1696-1898 by E. E. Butcher 25p.
30. *The Bristol Mint* by K. V. Grinsell 30p.
31. *The Marian Martyrs* by K. G. Powell 30p.
32. *Bristol Trades Council* 1873-1973 by David Large and Robert Whitfield 30p.
33. *Entertainment in the Nineties* by Kathleen Barker 30p.
34. *The Bristol Riots* by Susan Thomas 35p.
35. *Public Health in mid-Victorian Bristol* by David Large and Frances Round 35p.

Pamphlets may be obtained from the Bristol Branch of the Historical Association, Department of History, University of Bristol, or from Peter Harris, 74 Bell Barn Road, Stoke Bishop, Bristol 9.

Please add 5p to cover cost of postage

Printed by F. Bailey & Son Ltd., Dursley, Glos.