

Infant welfare, philanthropy and entrepreneurship in Glasgow: Sister Laura's Infant Food Company

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ABSTRACT Laura Smith was sister-in-charge of the Children's Dispensary in Glasgow from 1897 to 1922. In 1911 she established Sister Laura's Infant Food Company to market a special milk formula of her own invention. The directors of the Dispensary were not amused. As the 'outdoor' department of the Royal Hospital for Sick Children (Yorkhill), the Dispensary was at the forefront of efforts to combat child ill health and malnutrition. This paper considers Laura Smith's initiative within the context of the health and care of infants of the time – high infant mortality, public and professional concerns for infant welfare, technological advances in food science, changing recommendations and practices of infant feeding and ambiguous relations between medicine and commerce.

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Looking back over his career as medical officer of health in Glasgow from 1898 to 1925, Archibald Chalmers commented in 1930:

The maternity and child health welfare movement in its present form belongs wholly to the present century. It began with an effort to reduce the mortality among infants who were fed wholly on artificial food...¹

Chalmers was one of a group of physicians, philanthropists, physiologists, politicians and public servants who were instrumental in establishing welfare services for children in Glasgow during the first ten years of the twentieth century. Their achievements were echoed and paralleled in other British cities.² This was the decade of child welfare: throughout Europe, concern for the health of infants, indeed for their survival, provoked intense interest in the ways that they were fed.³ One in four children was dead by the age of four, and the highest losses were in the months after birth. After infectious diseases, debility, atrophy and malnutrition were the chief causes of death.

Babies who were not fed by their mothers were particularly at risk. Even if they were spared the summer outbreaks of diarrhoea that were so lethal to the artificially fed, they still fared worse than those who were suckled by their mothers.⁴ While breast-feeding was acknowledged and promoted as the ideal way to feed babies (and indeed regarded as a 'maternal duty'), it was also recognised that there was a need for alternatives to human milk, for foundlings, orphans and for the babies of mothers who could not, or chose not to, nurse them themselves. Moreover, safe weaning foods were needed for all babies, however they were initially fed.

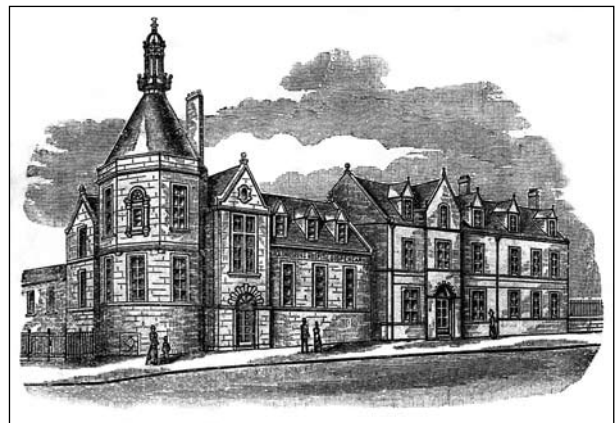


FIGURE 1 The Children's Dispensary, Cowcaddens, Glasgow. (Reproduced with permission of the archivist of the Yorkhill Hospitals.)

As Thomas Mepham has shown, the knowledge upon which safe alternatives to mother's milk was based was achieved well before the end of the nineteenth century.⁵ The application of simple chemical analyses, starting in the 1830s, revealed significant similarities and differences between bovine and human milks and led to rational attempts to modify the one to resemble the other. The higher protein content of cow's milk could be reduced by dilution with water, and its consequently lower fat and carbohydrate contents could be augmented with cream and loaf-sugar. Efforts to make artificial feeds more digestible, particularly the casein in cow's milk, and to reduce the risk of 'curd obstruction' led to a variety of other substances apart from milk being added or used – wheat flour, beef extract, malt and arrowroot were all adopted as the bases of artificial infant feeds.⁶

Chemists, such as Justus Liebig and Henri Nestlé, invented and launched patent baby foods as early as the 1860s. Liebig's formula, claiming to be 'the most perfect substitute for mother's milk',⁷ spawned many imitators. In 1874 Nestlé, the inventor of farine lactée – 'a wholesome Swiss milk and cereal component baked by a special process of my invention' – sold his company (which had offices in London and New York to deal with overseas demand) for a million francs. Small high-street chemists, as well as big national companies such as Allen & Hanbury's and Glaxo, moved into the business of manufacturing infant feeds. Rima Apple has investigated the overlapping interests of physicians and infant food companies in the United States during this period, and shown how they exploited public and professional concern about both the risks of artificial feeding and the benefits of feeds that 'caused no digestive disturbance'.⁸ She emphasises the partnerships that developed between physicians, chemists and food technologists to develop and market infant feeds.

By the early 1900s many brands of infant feed were on the market, advertised in both the medical and nursing press and directly to the public in newspapers and women's magazines. The essential components of 'safe' infant feeds were sufficiently clearly understood and defined for handbooks of infant care to contain chapters detailing their chemical compositions, recipes for preparation and appropriate uses.^{6,9} Some paediatricians favoured patent foods based on predigested cereals, especially those made up with milk. Others argued that as long as cow's milk was clean and sterilised, dilution with water was all that was necessary. Still others, influenced by American teaching, recommended complex mixtures of cow's milk, cream, salts and water in carefully calculated proportions to mimic the equivalent composition of breast milk that a baby would expect to receive.¹⁰ With the mass production of feeding bottles, the advertising of 'humanised' cow's milks directly to the public¹¹ and their promotion by and to the medical profession, the artificial feeding of infants became increasingly popular. In the first edition of *Food and the principles of dietetics*, published in 1906, Robert Hutchison listed no less than 16 commercially available artificial baby foods.¹²

Nevertheless, throughout Great Britain medical officers of health stressed the importance of breast-feeding to infant health. Valerie Fildes has shown that the officers seized upon infant feeding as a promising initiative to improve child health and sought to mobilise, in various ways, municipal, philanthropic, voluntary and commercial agencies towards that end.¹³ 'Lady health visitors' were trained to make contact with mothers as soon as possible after a new birth, to support breast-feeding and give sensible advice about alternatives.¹⁴ As Deborah Dwork has argued,¹⁵ concern for the health of future young men, particularly those destined for the armed forces, inspired and drove these initiatives. The

Parliamentary Commission on Physical Deterioration in England (1905)¹⁶ and the school board review of the health of children in Scotland (1908)¹⁷ engaged politicians and medical officers of health in the crusade, and some, such as John Burns and George Newman¹⁸ in London, made child welfare their champion cause.² Glasgow was not, therefore, unique, but saw itself as a city leading the way in child welfare.¹⁹

This paper examines the interweaving relationships and activities of key figures and institutions in Glasgow concerned to improve the nutrition and feeding of babies during the early years of the twentieth century, out of which emerged an infant food company that was to become a local household name for more than 50 years.

SERVICES FOR SICK CHILDREN IN GLASGOW

Glasgow, the 'second city of empire', was one of the richest manufacturing centres of Britain by the turn of the nineteenth century.²⁰ Yet its prosperity came at a cost, especially to the health of the poor. While industrialisation had done so much to create a booming market for household goods and labour-saving appliances (including paraphernalia for infant and child feeding and care), it had also done much, in other ways, to worsen the lot of the working classes and the poor, through the harmful effects of unchecked pollution, overcrowded housing and deficient sanitation. In parts of Edinburgh and Glasgow, infant mortality rates of 160–200 per 1,000 live births were recorded in the 1880s and 1890s.²¹ W Leslie Mackenzie, medical officer of health in Leith, then a poor town on the edge of Edinburgh, argued that clean milk was the answer and urged legislation to safeguard its collection, transport, distribution, sterilisation and storage.²² In Glasgow, by tabulating rates on infant mortality according to electoral ward, Chalmers showed that death rates were highest in the most densely populated parts of the city.¹ Building on the pioneering work of his predecessor James Burn Russell (medical officer of health in Glasgow 1872–98)²³ and recognising the implications for the population as a whole of this large loss of life at so early an age (exacerbated by a declining birth rate), Chalmers became especially concerned with the relations between feeding and infant mortality.

Provisions for the care of sick children in Glasgow had been slow and hard to establish, but against local opposition from vested medical interests, a children's hospital was eventually founded in 1882, followed six years later by an 'outdoor department' or children's dispensary (Figure 1).²⁴ Before this, medical services for children had been provided largely by general practitioners, poor law doctors and voluntary organisations.²⁵ Situated on the edge of the poor and densely populated district of Cowcaddens (where the infant mortality rate was 150 per 1,000 in 1907),¹ the Children's Dispensary was where the majority of sick children were first seen. Built from the

proceeds of a public fundraising campaign led by the Duchess of Montrose,²⁶ it offered free medical care for children. 'Open every forenoon' defined its admission policy, and 'no line is required – it is enough that the child is sick and poor'.

Huge numbers of children were seen each day, attendances reaching more than 27,500 a year by 1900 and almost doubling in the first decade to around 46,500 in 1910.²⁷ The cases seen included both medical and surgical conditions, but were dominated by infectious diseases and their clinical sequelae. Many children had diarrhoea and enteritis, as well as common infections and respiratory complaints. Throughout the early 1900s the annual reports of the Dispensary put contagious diseases, which caused wasting, debility, malnutrition and marasmus, at the top of the list of cases seen.²⁷

A visiting physician and surgeon (or their assistants) attended each morning and worked through the mass of waiting children. Those for whom it was judged nothing could be done were sent away. The Children's Hospital, two blocks up the road, as a rule admitted no child under two years of age (for fear of introducing infection) and had only 74 beds.²⁴ Most were occupied by children suffering from the consequences of chronic infections, such as tuberculous bone disease, and other conditions requiring surgery, including rickets.

Much of the work of the Dispensary focused on nutrition and feeding. In the absence of many effective remedies for specific diseases and in a setting where large numbers of undernourished children were seen, advice on diet was central to the treatment of many. Reviewing the fate of 10,673 babies visited at home by 'lady health visitors', Chalmers reported in 1908 that 'no less than 96% had the advantage of breastfeeding in the early weeks of life'.²¹ The majority were breast-fed from birth, and at six months 60% were still being nursed by their mothers.²⁸ The main reasons for introducing other feeds and ceasing mother's milk prematurely were medical problems of mother or baby. Few mothers seemed to have stopped for social reasons, although some did so because they returned to work.²⁹ Breast-feeding was the norm among the poor, even though artificial feeds were available and used by those that could afford them. Leonard Findlay, an extra-honorary physician to the Dispensary from 1905 to 1914, was in no doubt that 'breast was best':

Of the value of mother's milk as an infant food all physicians are agreed, and it therefore behoves us to encourage that method of feeding by every means that lie within our power. My own practice is to prescribe five meals daily at four-hourly intervals, with a longer interval of eight hours during the night; and I am convinced that this is the ideal method for a healthy child over one month old.²⁸



FIGURE 2 Laura Smith, sister-in-charge of the Glasgow Children's Dispensary, 1897–1925. (Reproduced with permission of the archivist of the Yorkhill Hospitals.)

SISTER LAURA SMITH

Nurses assisted the paediatricians in the Children's Dispensary, led by Laura Smith (Figure 2), the sister-in-charge. Born in County Durham in 1866, Smith trained in Edinburgh at the Western General and Children's Hospital before joining the Royal Hospital for Sick Children in Glasgow as a staff-nurse in 1891. In 1897 she took command of the Dispensary. As a single woman on an annual salary of £34, she lived in the nurses' home next door. Sister Laura presided over a small staff of nurses who, as well as caring for children attending the Dispensary, undertook home visits, where they often took the food that was used in the clinic to treat undernourished children. They 'gave advice on the maintenance of domestic cleanliness and wholesomeness', and 'to the poorest homes they took milk, eggs and beef tea'.

The Dispensary nurses made available leaflets on the feeding and care of infants, as well as diet tables. Smith and her nurses also provided patent foods to children attending the Dispensary, but 'such was the demand that there was concern that these special foods were frequently improperly used by the recipients'.²⁷ It was not uncommon for mothers to dilute them with water and give these weak, nutritionally imbalanced and potentially contaminated mixtures in inappropriate bottles. (Soon after Sister Laura took charge of the Dispensary she began developing her own infant food formula, which would go on to achieve such fame in later years.) In 1902 'it was agreed that the dispenser at the Dispensary should be authorised, to sell at cost price (say at about 3d or 4d) feeding bottles of a pattern to be approved by the Dispensary physicians to mothers and others bringing infants to the Dispensary'.²⁷ A range of feeding bottles was available on the market, and the boat-shaped ones, which could be easily washed out and were therefore less subject to contamination, were favoured.³⁰ (In many parts of Britain medical officers of

health mounted campaigns to discourage the use of the long-tube feeding bottles that were so lethal because they were difficult to clean.¹³)

In 1910 the directors of the Royal Hospital for Sick Children in Glasgow noted a report by Francis Henderson, Dean of Guild:

Some 14,000 little children had been treated by the staff there (at the Dispensary) and the total number of new cases was the largest in the history of the institution... While all the work done was valuable, he wished to emphasise the importance of the visits paid by the experienced and trained nurses to the homes of the children, and the advice they were able to give to the parents there. There was no doubt that the education of the female children in the city did not give them much, if any, information on the ordinary principles of domestic economy, or about cooking invalid foods or nursing and feeding sick children, and on all of these points the experienced nurses of this institution were able to give the parents of these sick children most valuable help indeed.²⁷

The Glasgow Corporation provided cheap meals for mothers in working-class areas and instructional classes on domestic hygiene and nutrition for young mothers. Cooking demonstrations were organised in the University of Glasgow's department of physiology under the auspices of Professor Noel Paton, who had a long-standing interest in the diet and health of the working classes.³¹ The Corporation also campaigned for legislation to prevent women working during the later stages of pregnancy or within three months of having a baby. 'Lady health visitors', sanitary inspectors and other philanthropic women united in 1908 with a number of voluntary societies to form the Glasgow Health Visitors' Association.

In the same year the Notification of Births Act gave health visitors access to the homes of newborn babies and with it greater opportunities to attend to infant health and feeding. Rottenrow Maternity Hospital opened a 'Mother's Education Room' in 1909, where former patients might return with their babies to 'get instruction on feeding and upbringing'.³² The municipalisation of such philanthropic work was not unique, and the emphasis on the education of mothers, young women and girls was typical of the welfare initiatives under way throughout Great Britain.^{2,18}

INFANT MILK DEPOTS

Another initiative, in Glasgow and elsewhere, was the infant milk depots. Close to the Children's Dispensary was the Cowcaddens infant milk depot in Maitland Street (Figure 3). Opened in 1904, it was one of several distributing dairies served by a central depot in



FIGURE 3 Infant Milk Depot, 106 Maitland Street, Cowcaddens, Glasgow. (Reproduced with permission of Glasgow City Archives and Special Collections.)

Osborne Street. The depots provided sterilised milk for babies that were not thriving, and offered a means of monitoring growth, health and infant welfare. The feeds were based on cow's milk, modified to resemble human milk through dilution and the addition of cream and salt. As soon as the milk arrived by train at the Osborne Street depot (next to St Enoch's Station), 'its fat percentage is tested, [and] it is then separated with a Laval separator which serves also to extract all dirt, hairs and other foreign material [which could include cow dung]'.

The mixture is then made according to definite prescriptions, which simulate as closely as possible the composition of mother's milk. Six different proportions are dispensed according to age requirements, each containing milk, added cream, sugar, salt, water and nothing else... The bottling is done automatically, twelve being filled at a time, the aluminium stopper is inserted by machinery ... the steriliser is filled. The temperature is raised gradually to 212°F under 15 lb pressure for ten minutes.²¹

The milk was then delivered to the 18 satellite depots around the city by horse-drawn cart.

The infant milk depot was modelled on the French *Gouttes de lait*, pioneered by Pierre Budin, Gaston Variot and Léon Dufour,^{3,33} which mothers attended fortnightly with their babies, who were weighed and, if the mothers were unable to nurse them themselves, artificial feeds were made available. The process of preparing and distributing milk reflected the teachings and practice of Thomas Rotch, professor of paediatrics at Harvard, who developed the 'percentage feeding method' and set up a dairy (the Walker Gordon Laboratories) to prepare and distribute his feeds.¹⁰ This initiative was exported to London, where Ralph Vincent, paediatrician to the Westminster Children's Hospital, preached and popularised Rotch's work.⁹

Nine bottles were dispensed, to supply the needs of a baby for a day, at two pence. In Leith, Mackenzie's colleague William Robertson, who presided over a comparable infant milk depot, reported that within two years of its establishment in 1903, deaths due to diarrhoea of the infants on its books had declined to 1.4%, compared with 18.2% in those that did not attend.³⁴ All babies attending the depot and at homes where an infant death from diarrhoea had occurred were visited by a lady sanitary inspector.³⁵ In Glasgow, take-up of depot milk rose steadily, and at its height more than 700 infants were receiving it.²¹ However, the numbers had dwindled to 300 by 1910 and the medical officers of health reported that the average period for which the milk was used was short and the weights of the children reared on the depot milk did not compare favourably with children receiving other substitutes for mother's milk.²¹

In 1910, as the author has described in another paper (with Ferguson and Nicolson),¹⁹ the Glasgow infant milk depots were closed. Having been established to provide clean milk to babies in need, they were deemed no longer financially viable, nor serving the babies at which they were targeted. A mixture of regret, realism and resignation informed the Corporation's decision to shut them. Within the Corporation's health committee, however, 'there was considerable opposition by those in favour of continuing the milk depots', and it was urged to 'inquire of milk purveyors whether any of them are prepared to place on sale clean bottled milk produced under conditions which would satisfy the health committee'.²¹ It was not recorded whether the invitation was taken up by any dairy, but within a year there appeared on the market Sister Laura's Infant Food.

SISTER LAURA'S INFANT FOOD COMPANY

In 1911 a syndicate was formed 'for the purpose of acquiring from Sister Laura her proprietary rights in the formula', which was prepared 'in the form of a dried powder and in hermetically sealed tins can be kept for an indefinite length of time ... A considerable part of the success of the food depends on the method of firing and the secret process of doing this will be acquired by the syndicate'.³⁶ The articles of the syndicate stated that 'the formula has been used among the outdoor patients of the Royal Glasgow Hospital for Sick Children for 14 years with most excellent results'.³⁶ In addition to Laura Smith, the founding members of the company were Duncan MacGregor, a yarn merchant from Ingram Street, and Margaret Moore, a baker and confectioner from Giffnock, on whose premises the baby food was manufactured.

In gauging the market and to pitch Sister Laura's baby food, the retail prices of existing infant feeds were listed – Benger's, Mellin's, Allen & Hanbury's, Horlick's and Nestlé's infant feeds among others – which retailed at

between one shilling and one shilling and sixpence. Sister Laura's Infant Food went on sale at one shilling – 'to be had from all chemists and druggists'. On the side of the tin, alongside directions for use, it was explained that 'the tin will last four times as long as a corresponding quantity of other infant foods. It is thus the cheapest on the market.' This was because the powder was 'highly concentrated' and mixed with cow's milk before use (see Appendix I for its composition).

The directors of the Children's Hospital were taken aback by this piece of philanthropic entrepreneurship. The minutes of the board of directors recorded:

...that doubtless Sister Laura had acted with the best intentions, it was most undesirable that an Hospital Official should act in this way and should be interested in the sale of an article used by patients and that the advertisement of the food led the public to believe that the food had been used at the Hospital with the permission of the Physicians, whereas it had only been used at the Dispensary and could not be said to have been prescribed or sanctioned by the Physicians there.³⁷

The board added that 'Sister Laura was quite aware that the directors must disapprove of what she had done & that it was understood that the Company would print no further advertisements associating the food with the Hospital'. Yet Laura Smith's association with her baby food did not cease. Her company thrived, surviving the uncertainties of the First World War until in 1920 Smith's formal connection with it came to an end when it was incorporated as Sister Laura's Infant and Invalid Food Company Ltd, with only two shareholders.³⁶ However, the new company continued to trade on Sister Laura's 'message'. Advertising directly to the public, as well as targeting promotional material to professionals, the story of how Sister Laura's baby food came about was disseminated in a pamphlet entitled *The milk of human kindness*. Headed by a picture of Laura Smith (Figure 4), it read:

I was always interested in children, and when I first went to the Royal Hospital for Sick Children in Glasgow, I felt sorry for the poor little mites who were brought into that Hospital for attention. More than any other community, a large industrial centre like Glasgow provides ample material in the way of necessitous children for study. Being human and womanlike, I was impressed by the pitifully half-starved infants who were brought to us daily, and I soon decided that I must do something towards making life more than a mere existence for them. Realising the condition of these poor children was largely due to the lack of proper nourishment, I devoted myself to the study of infant dietary. The root of the trouble in most cases was improper nourishment.

There is no substitute for healthy mothers' milk which is so good as undiluted fresh cow's milk, therefore I devoted my energy to finding means of making undiluted cow's milk easily digested by the youngest and weakest children without digestive disturbance. Dilution with water is obviously wrong because it seriously decreases the nutritive value and does not increase the digestibility of the casein. My long experience showed that specially prepared wheat added in regulated quantity to undiluted fresh milk breaks up the casein rendering it to a fine flocculent curd easily digested by the weakest children even from birth, thereby reaping the full benefit of the whole milk and all the nourishment milk alone can give.

I had opposition from some of my chiefs at first, but my preparation speedily proved itself on results. Children came into hospital; everything else was tried, often without result; and then came Sister Laura's Food, from which the patient would make immediate progress. Actual results convinced my chiefs and other critics of the immense advantages gained from my food. Outside doctors and nurses seeing the results, recommended it – Mothers whose children had benefited from it came to the hospital and desired it for their new babies. There became an insistent demand and my professional friends advised me to put the preparation out for general sale because of the benefits the public would derive from it, and it is not too much to claim that many thousands of children and grown-ups too, owe their good health, and in many cases their lives, to that wise decision.³⁶

It was not simply this moving story that was used to promote Sister Laura's baby milk. By the outbreak of the Great War, feeding babies to combat infant mortality had developed into something of a military campaign, and even when peace was restored the potent connections between healthy babies and fit recruits was a theme exploited in advertising Sister Laura's baby foods. An idealised image of a pensive nurse is depicted above a frieze showing a vulnerable baby in a pram growing into a healthy child, who advances to join the fit young men that are to defend the country and safeguard its greatness as a land fit for heroes (Figure 4). The caring figure of Sister Laura meditates on the great service she has done for Glasgow's children.

By 1926 Sister Laura's baby food had found a place in the sixth edition of Hutchison's textbook of dietetics.³⁸ In 1933 Leonard Findlay, who may well have been one of the 'chiefs' that opposed her baby food, referred to it in his textbook of paediatrics:

A starchy food intended as an addition to undiluted milk ... Sister Laura's food differs essentially from most of the others in the claim that its chief value lies, not in

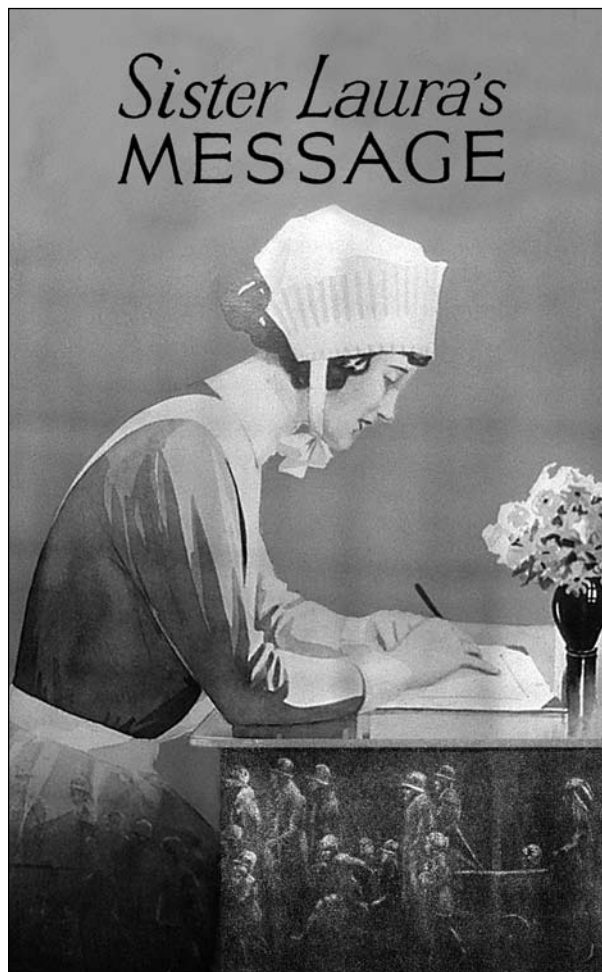


FIGURE 4 The cover of Sister Laura's Infant Food Company's promotional pamphlet, *The milk of human kindness*. (Reproduced with permission of Information and Archives, East Dunbartonshire Libraries.)

the additional nourishment it supplies, but in its making the milk to which it is added more digestible. The reasons why many children thrive on it are apparently the relatively small amount of the food added to each bottle, and its being prepared with full milk.³⁹

Findlay had worked with Heinrich Finkelstein in Germany, a pioneer in the development of artificial infant milk and the inventor of *Eiweissmilch*, a protein-rich formula that was easily digested.⁴⁰ However, he was a sceptic about artificial feeding, milk depots and even antenatal clinics, and came to hold strongly antipathetic views about the commercialisation of medicine later in his life.⁴¹

Much has been said lately of the desirability of Government action towards the incorporation or encouragement of antenatal and post-natal clinics, milk depots and similar institutions. It is very doubtful, however, if the good that will accrue from institutions of this kind will be at all commensurate with expectations that have been aroused or with the expense that would be entailed.⁴²

Findlay knew all too well the connection between poor feeding and infant mortality, and that breast-feeding was of critical importance, supervising a number of surveys of the diet and growth of Glasgow children.⁴³ Subsequent numbers of *The milk of human kindness* addressed various subjects, including 'the composition of milk' (by HL Lucking FIC) and 'vitamines' (by 'MD'). The latter dealt with antiscorbutic, antineuritic and antirachitic substances, of which Findlay was an international expert.⁴⁴

CONCLUSION: WELFARE, PHILANTHROPY AND ENTREPRENEURSHIP

The story of Sister Laura's Infant Food Company, and how it arose out of the work of a children's dispensary situated close to an infant milk depot in one of the poorest parts of Glasgow, illustrates how, during the decade of child welfare, public, professional, personal, philanthropic and commercial interests touched, overlapped and sometimes joined forces. Judging from Sister Laura's own retrospective account, she was familiar with the nutritional, scientific and medical issues surrounding the search for safe infant foods. While it may be a surprise that a professional nurse should launch a new baby food, the setting and conditions in Glasgow were perfect for such a product to emerge. The milk depots had served their purpose, safe commercial baby milks were becoming widely available, the trouble and expense of running the milk depots (the responsibility of the Corporation) had become out of proportion to demand and there was a commercial opportunity to exploit.

Yet could it really be true that a baby food used for 14 years at the Dispensary was not sanctioned by the physicians, who every day saw ailing babies and children whose nutrition and feeding must have been one of their chief concerns? The medical staff of the Dispensary would surely have known of, and been involved with, home feeding of children and the provision of artificial feeds prepared by the nurses. But medical men stood clear of associating their names too closely with commercial products, perhaps remembering the fate of Dr Thomas Allinson, who fell foul of both the General Medical Council and Royal College of Physicians of Edinburgh. Struck off the medical register for advertising his wholemeal flour in 1892, and stripped of his licentiateship by the RCPE in 1895, he nevertheless continued to promote it personally, as 'Dr Allinson ex-LRCP'.⁴⁵ However, the professional code and official prohibition to advertise perhaps did not apply so strictly to nurses. Moreover, Sister Laura was a familiar, well-loved and trusted figure about the closes of Cowcaddens, remembered in a rhyming ball game: 'Sister Laura walks like this, pit a pat pat, pit a pat pat'.²⁴

Sister Laura was not doing anything revolutionary in launching her baby food. There were plenty of other infant formulas on the market, advertised not just to expectant and nursing mothers but also to the public at

large.⁴⁶ In the articles for the establishment of her company were listed details of ten other competing products with their retail prices and nominal share values. Sister Laura's baby food was distinct from them in that it was made up with milk (Appendix I). It was also cheaper. Going public, Sister Laura and Co. had done their homework, surveyed the market and built their business case well.

The Children's Dispensary and infant milk depots in Glasgow were in the front line in the battle to combat infant mortality. With the closure of the milk depots, a 'house recipe' of the Dispensary was transformed into a commercial product for the welfare of infants by a well-respected hospital sister in partnership with a baker, to capture a piece of the growing market for infant foods. Sister Laura's baby food competed successfully with other proprietary products on the market. Infant mortality was declining as child welfare services expanded.⁴⁷ A new children's hospital opened in 1914,²⁴ but the Dispensary remained as busy as ever. Laura Smith remained sister-in-charge until 1922, when she retired on the grounds of ill health. Even then the directors of the Royal Hospital for Sick Children sought to keep her on by offering her a few months' rest (which she declined), and gave her a lifetime annuity of £100.³⁷ She died in 1943, but her former company continued to prosper, providing for the children of Glasgow and further afield until it was wound up in 1981.

Appendix I As indicated above, the process of manufacture and composition of Sister Laura's Infant Food was secret. However, Hutchison reported that it was composed of 1.18% water, 16.52% protein, 1.78% fat, 79.42% carbohydrate and 1.1% mineral matter. Described as 'a starchy food intended as an addition to undiluted milk',³⁸ the directions for use were: 'One teaspoonful of powder to one teacup (5oz) of milk. As the child grows older increase the amount but keep to the same proportions'.³⁶ When prepared according to these directions the feed contained, in dram (an apothecary weight equal to 3.89 grammes) per ounce of water: 3.96 fat, 3.89 protein, 7.67 carbohydrate. It was classified as belonging to 'Essentially starch foods ... advertised to be used with milk ... In analysis they are similar to wheat flour, with a varying proportion of starch changed by baking to dextrin and maltose'.³⁹ The food was advertised as suitable from birth (with a table of quantities per feed), but Hutchison recommended usage only after at least six months.³⁸

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