		page
preface		viii
chapter l	basic anatomical features of the mammary gland	ł.
chapter 2	physiology of human lactation	
chapter 3	biochemical and immunological components of human milk	25
chapter 9	why breastfeed?	55
chapter S	clinical issues relating to the establishment of lactation	83
chapter 6	clinical issues relating to the maintenance of lactation	113
chapter 7	mothers and babies with special needs	143
chapter 8	practical issues	161
chapter 9	the 3 Lacs; some personal perspectives	179
chapter 10	appendices	231

## preface

The *Lac humanum* type dreams of a variety of animals, especially of amphibious creatures. This is perhaps suggestive of the notion that monotremes (of which our Australian platypus is an example) provide an evolutionary link between reptiles that lay eggs and abandon their young, and mammals that birth live and suckle their young.

As a species we are defined by our ability to nourish our young in this special way. That this ability evolved is perhaps due to the willingness of an amphibious creature millions of years ago to allow her young to lick the sweat from her chest, thereby increasing their chance of survival to reproduce in an adaptive manner. Sweat, like saliva, is rich in lysozyme, an enzyme with potent anti-bactericidal properties from which,  $\alpha$ -lactalbumin, the main protein in human milk, is derived.<sup>1</sup> Milk, a unique substance, which varies slightly from specie to specie in the mammalian kingdom, affords all newborns an increased chance of survival due to a range of protective and potentiating characteristics, which will be explored in depth in this book.

With the advantage of modern methods of scientific enquiry, it is universally acknowledged that to be nourished with a milk that is species specific is an optimum experience. However, the benefits of breastfeeding have long been understood. One of the earliest of recorded references comes from Hippocrates who is reported to have written: "One's own milk is beneficial, others' harmful." Furthermore, an interesting Spartan law ruled that all women (including the wife of the King, were required to breastfeed, at the very least, the eldest son. Indeed, Plutarch reports that a second son of King Themistes inherited the Kingdom of Sparta only because he was nursed with his own mother's milk. The eldest son had been nursed by a stranger and was therefore rejected.<sup>2</sup> Subsequent to that historical period, Emperor CaesarAugustus was reputed to have ridiculed mothers who hired wet nurses to suckle their infants.<sup>3</sup>

Such a tendency to view with disfavour those women in our society, who adopt the seemingly easy option and abandon breastfeeding in favour of artificial feeding, still persists, especially among health professionals. However, to be fair, historical evidence suggests that, from the earliest of recorded times, traits of our reptilian heritage have prevailed, and alternatives to breastfeeding have had to be found in order to accommodate those women who eschewed breastfeeding for either physiological or psychological reasons. For women, the eternal ("Catch-22") question seems to be: "How much can I give to the next generation without taking too much away from my own soul's journey?"

It is the Curse of "Eve"; and, when we reflect that women, at the time of weaning, are limited in their choices of breastfeeding substitutes and cannot reach for one made of human milk, it says much about society's priorities. Wet-nursing had its advantages; at least it was human milk that babies received!

Archaeological evidence indicates that in ancient Egypt feeding flasks were relatively unknown. This is especially so among the graves of families who enjoyed high status. These women tended to breastfeed for up to three years as indicated in the Boulak Papyrus:

Thou shall not forget thy mother for she carried thee long beneath her breast as a heavy burden; and after these months were accomplished she bore thee. Three long years she carried thee upon her shoulder, and gave thee her breast to thy mouth. She nurtured thee, and took no offence from thy uncleanliness...  $_4$ 

This is a far cry from the current situation, as exclusive breastfeeding in Egypt is now as low as 20% and inversely linked to the household ownership of a refrigerator!<sup>5</sup>

Additionally, spouted feeding cups dating from c2000 BC have been discovered in the graves of European infants; and Hammurabi's Code (c1800 BC) contained regulations pertaining to the practice of wet-nursing.<sub>6</sub> A pair of spouted feeding cups (dating from c600 BC) was discovered in the grave of premature Sudanese twins.<sub>7</sub> It is believed that such devices were filled with milk from goats or donkeys. We know from ancient drawings and legends passed down (particularly Greek and Roman), that direct suckling from animals was not unknown. The legend of Romulus and Remus is perhaps the most familiar, and may give cause for speculation concerning the essence of *Lac lupinum* and the Italian psyche. However, the dog, jackal and wolf are repeated themes in the artefacts and traditions of many ancient civilisations, and we know from Nancy Herrick's work on *Lac lupinum* that one of its main themes concerns that of "children in danger"; an ironic comment on infants who have no access to human milk!

Wet-nursing was always a popular option for those who could afford it, and provided a regular source of income for those who were resilient enough or desperate enough to endure it. Infanticide and abandonment were widely practised in parts of Europe by the bourgeois as well as the working classes in the C18th. Few women breastfed; their babies being sent out to wet nurses who became known as "the angel makers".8

A review of infant feeding in Great Britain from 1500 to 1700 AD suggests that most wealthy English women did not breastfeed; and, although it was recognised as a reliable means of contraception even back then, they preferred to run the risk of bearing a baby each 12 to 18 months rather than breastfeed. <sup>9</sup> Henry VIII's probable syphilitic miasm notwithstanding, the history of England may well have been vastly different had Catherine of Aragon (herself) breastfed her firstborn son, who lived for five months under the care of the royal wet nurse and four royal rockers of the cradle! She, in fact, gave birth to 10 children and only one (Mary) survived.

Working-class mothers, who were forced to leave their infants for varying periods throughout the day resorted to pap gruels, which consisted of a much diluted mixture of milk mixed with bread, rice or flour. Those mothers, who were forced to take their children with them to work, often resorted to a mixture of treacle and opium (called "Godfrey's Cordial") to keep their babies co-operative.<sub>10</sub> The majority of these infants died.<sub>11</sub> Those who made it through to adulthood truly epitomised the notion of "survival of the fittest".

Breastfeeding, however, has always ensured that a woman is able to mother in a very special way. Not only is she certain that her baby will, throughout the lactation, obtain nutrients entirely appropriate for meeting the unique needs of each developmental stage, but is certain also that she can satisfy her baby's emotional needs during those times when he comes to the breast for comfort rather than nutrition.

On an endocrine level, breastfeeding completes the conception/birth/lactation cycle dominated by oxytocin and is, therefore, of importance in a psychosexual sense for a woman's physical and emotional integrity. Because of this, it is my belief that the relationship, which a woman shares with her baby throughout the lactation, is as personal and private as that which she shares with her mate. Society at large, therefore, should respect this need for privacy by according each woman the freedom to mother her baby as best she sees fit, by offering real and practical support.

Cultural beliefs play a part here and, as health professionals, we need to be cognisant of the wide variety of cultural practices that prevail. Since the earliest of times suspicion concerning colostrum has abounded and taboos persist today, especially among some Asian and African races. In Europe, the use of herbal teas has always played an important part in mothering, especially during episodes of "teething".

Dietary patterns among mothers are diverse due to both cultural and philosophical beliefs. Breastfeeding positions vary as well. While most women in Western cultures adopt the "Madonna position" for feeding, those mothers who traditionally carry their babies on their backs or hips simply swing them around for feeding in an upright "primate position".

Because they digest their milk relatively quickly due to the low protein content, babies need to feed every few hours. Being carried in a sling in close proximity to the breast provides continual warmth and security as well as nourishment, and is a carryover from our hunter-gatherer origins where easy mobility was essential as groups moved from place to place to prevent the depletion of resources. It is also a practice that acknowledges that human mammals fall into the category of "altricial" rather than "precocious". Foals and lambs are examples of the latter as, in a relatively short time after birth, they are able to walk and follow their mothers.

Human babies, however, like most other mammals, need a safe "nest" where they can complete their development.<sub>12</sub> The evolutionary compromise that occurred as a result of bipedalism (and the ensuing narrowing of the pelvis) was to give birth to relatively immature young. Humans are particularly immature at birth with their brain size being only 25% of the final size. At the breast all systems mature, but the brain develops at the same rate it did in utero until the age of 12 months, at which time it reaches 80% of the final size and the growth rate slows down. It completes its maturation some two years later.

Therefore, there can no denying the weight of medical evidence that implies that "breast is best", and there are well-recognised common parameters pertaining to the management of lactation. However, each mother/baby dyad knows in what ways breastfeeding best accommodates its needs.

Although nine months has traditionally been seen by some to be an optimum minimum length for lactation (mirroring ex-utero, a similarly timed period of attachment in-utero), hunter-gatherer mothers feed for at least two years and up to four years. A woman's lactation, therefore, may be lengthy or short for a variety of social, cultural and economic reasons. And, in every case, she can be certain in the knowledge that her baby has had the very best start that she and Nature can offer to life outside the womb.

Epidemiological studies suggest that sustained breastfeeding rates are higher in our society among those women who have attained higher levels of education.<sub>13,14</sub> Put simply, this means that although almost all women begin breastfeeding, about 50% of those in developed countries stop within three months.

In fact, the most recent data from the US suggests that only 22% of infants are still receiving breastmilk at six months.  $_{15}$  The majority of those who persist do so because they are well informed and appreciate the important role that breastfeeding plays in the protection of infants from a range of morbidities. Research, however, also consistently emphasises the importance of the Physician's attitude in ensuring continued breastfeeding success.<sub>16,17</sub>

As health professionals we homeopaths have a special role to play in that our unique understanding of the importance of the mother-child bond that comes through our study of Materia Medica, particularly of *Lac caninum* and, more recently, *Lac humanum* and *Lac maternum*. Issues about developing self-confidence through being nurtured are significant in the milk remedies. Interestingly, western medical

sciences also acknowledge the role that a strong mother-child bond plays in promoting psychological independence in the child and in preventing bouts of anxiety and depression in later years.  $_{18}$ 

It is my hope, therefore, that through this book, homœopaths may come to have a better understanding of the uniqueness of human milk (and, therefore, its Doctrine of Signatures) from both a western medical and a homœopathic perspective; thereby ensuring that we give informed and best-practice care to mothers and babies.

## references

1	Hayssen V; Empirical and theoretical constraints on the evolution of lactation <i>Journal of Dairy Science</i> 76:3213, 1993
2	Lawrence R & R; Breastfeeding: a guide for the medical profession Sydney, 1999, Mosby
3	Riordan J; A Practical Guide to Breastfeeding
4	St Louis, 1983, Mosby Durant W; <i>The story of civilisation vol 1: Our oriental heritage</i>
•	New York, 1954, Simon & Schuster Inc in Riordan J op cit
5	Hossain MM et al; Breastfeeding in Egypt
	J Royal Soc Health 290-296, 1994
6	Lawrence R & R op cit
7	Phillips V; Infant feeding through the ages
	Keeping Abreast J 1:1976
8	Hrdy SB; Mother Nature; Natural Selection and the Female of the Species
	London, 1999, Chatto & Windus
9	Fildes V; Breasts, Bottles and Babies
	Edinburgh, 1986, Edinburgh University Press
10	Riordan J; op cit
11	Stone L; The family, sex and marriage in England 1500-1800
	New York, 1977, Harper & Row Publishers Inc
12	Bergman NJ; Kangaroo Mothercare; Restoring the original paradigm for infant care ABA International Breastfeeding Conference, Brisbane, Australia, 2001
13	Wright AL, Holberg C, Taussig LM et al; Infant Feeding Practices among middle class Anglos and Hispanics
	Pediatrics 82:496, 1988
14	Ryan AS, Rush D, Krieger FW et al; Recent declines in breastfeeding in the United States, 1984 through 1989
	Pediatrics 88:719, 1991
15	Ogden Li R, Ballew C et al: Prevalence of exclusive breastfeeding among US Infants: The Third
	National Health and Nutrition Examination Survey (Phase II, 1991-1994)
	Am J Pub Health 92(7):1107-1110, 2002
16	Ryan AS, Martinez GA; Breastfeeding and the working mother; a profile
	Pediatrics 83:524, 1989

 Freed GL et al; National assessment of Physician's breastfeeding knowledge, attitudes, training and experience

JAMA 273(6):472-76, 1995

18 Fergusson DM, Horwood LJ, Shannon FT; Breastfeeding and subsequent social adjustment in 6-8 year old children