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# Ninety years young

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## Editorial

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My very first attempts at exploiting the wonders of lactation were an abject failure, or so my mother has informed me. Despite that (or maybe partly because of it?), I have retained a fascination with the topic throughout my upbringing and then career. As a biological process, the production of milk is arguably the most undervalued attribute of the vertebrate class Mammalia; the basis of nomenclature but constituting only a small paragraph or two in physiology textbooks. As nutrition for the neonate, milk is unsurpassed and almost certainly always will be: Kevin Nicholas' fascinating account of marsupial lactation and the role it plays in the development of the altricial joey is not only a joy to read but also points to huge potential for improved prognosis in premature human birth (Nicholas, 2019). As nutrition for the general population, milk (from dairy animals) has come to be regarded as something akin to Jekyll and Hyde. I shall not enter into that debate here, but suffice to say that mankind has exploited dairy animals for many centuries in order to sustain and grow the species; milk and dairy products have been a major player in our success and could play a significant part in further sustaining both our expanding human population and our global environment. The Journal of Dairy Research has played a key role in achievements to date and will continue to make a crucial contribution to those still to come.

The Journal came into being in November 1929, but the first volume was dated 1930 and it is that year which we commemorate with our 87$^{th}$, ninetieth-anniversary volume. The reason for the three 'missing' volumes is a simple one; in the years spanning 1942 and 1948 only three volumes appeared, but these were also the war-ravaged years that created the greatest need for increased production of higher quality food, and this was the challenge that the Journal answered. I have addressed our origins as a research journal 'for the Empire' in the very first of our more recent Editorials, written four years ago (Knight, 2016). The Empire in question was, of course, the British Empire, and in many respects the early Journal had a very strong UK flavour: all but one of the ninety or so articles published in the first five volumes were from English-speaking nations (the exception was from Denmark). 'Going global' was the title of another review, written two years ago (Knight, 2018) but encapsulating the international ethos that has guided our more recent development. The intent was always there; in that fifth volume the publishers are listed as '*London, Cambridge University Press; Bombay/ Calcutta/ Madras, Macmillan; Tokyo, Maruzen Company Ltd*' and the Joint Editors of Dr Norman Wright (Hannah Research Institute, Ayr) and Dr ATR Mattick (National Institute for Research in Dairying, Reading: NIRD) had 'correspondents' in India and South Africa as well as Canada, New Zealand and Ireland. Dr Mattick served as Editor for 27 years, but was also a founder member and, in 1946/7, President of the Society of Dairy Technology. It was 1947 when the first issue of that Society's journal, the International Journal of Dairy Technology, first appeared, introduced by Dr Mattick with a short Editorial that included the ominous observation '*For the moment, the size is necessarily restricted by the rationing of paper supplies…*' (Mattick, 1947). The Journal of Dairy Research remained strongly influenced by the Hannah and NIRD throughout the existence of those Institutions, but was never associated with a Society of any sort. From the outset it had a remit that spanned the entirety of the dairy foods chain, and in scanning the first volume of each decade from 1930 through until 2010 I can see that processing and technology papers predominated until the 1980s but thereafter the split was more even. More recently the 'straplines' have been 'Dairying, Lactation, Food' (1990s), then 'Mammary Biology, Lactation, Food' (2000s) and currently 'International Lactation Sciences' (dairy is, after all, encapsulated in the title). In appearance, the Journal started life without any real front cover since the issues would usually be bound by libraries, but by the 1950s a cover of pale duck-egg blue had been adopted, followed in the next two decades by a darker solid blue cover, sometimes interspersed with a white horizontal panel. In the 1980s and 1990s an 'arrowhead' paler blue colour was used, followed in the millennium decade by a combination of blue and yellow horizontal panels. The format of blue and white with images reflecting different aspects of dairy production was introduced in 2012, followed in 2017 by our current 'two cow' format which is reflected in the branding on the websites.

In 1960, shortly after Dr Mattick left, the Editorial Board comprised 16 members, two thirds of whom were from the UK. George Fthenakis, a friend and colleague on today's Editorial Board, recently expressed to me his concern that the Journal has always been perceived as 'UK', and it is easy to see why. The Journal is owned by a Scottish charitable

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Foundation, is published in England and has a UK Editor in Chief, but all three are strongly committed to globalisation. If one takes a 'trimester' approach, we have already seen that the 1930s was characterised by an almost complete preponderance of authors with English as their native language. In 1960 the situation had not changed substantially: 42 papers were published written by a total of 88 authors and co-authors, of whom more than 90% were native English-speaking. Another notable Editor was Dr M Elisabeth Sharpe, NIRD, who served for 14 years from 1975 to 1989 and oversaw significant changes to the Journal. The author origin data for 1990 and 'term' (2010) are shown in Fig. 1. Whilst this might look like a gel chromatogram, it is not. In both of these years Cambridge University Press included an author index in the final issue of the year, and I have simply scanned each list and then replaced each name by either a yellow bar (for a native English speaker) or a red bar (for others: the white bars are the gaps between consecutive letters of the alphabet). By 1990 the dominance of English speakers has been reversed. Accepting that the classification may have a few errors, the further increase in the proportion of non-native English speakers between 1990 and 2010 is quite evident, from around 66% to 90%, so the situation has changed completely. Also very evident is the increased number of authors. In 1990 there were 167 authors, an approximate doubling from 1960, and by 2010 the number had almost doubled again, to 339. Each issue of the modern Journal has well over 100 authors involved, so approaching 500 in a volume; a sobering comment on the way that research practise has expanded. Will the 2020 volume generate 5 times as much societal benefit as the 1960 volume? That is primarily up to you, the researchers! It is worth reflecting that the Society of Dairy Technology (then exclusively UK) was proud to have over 1000 members within 4 years of its inception, whilst the American Dairy Science Association took almost 30 years to achieve roughly that size, and 70 years to achieve around the same number of members as the Journal of Dairy Research now has in its 4 year-old Community (over 3000). This latter statistic is simply a reflection of today's communication methodologies (see the most recent Editorial; Knight, 2019), but it does emphasise the globality of our modern Journal. Before we leave the topic, I referred to the fact that the early Journal was published in India as well as the UK and Japan. The modern Journal owes much of its publishing fabric to India (as do many others), but the number of published Indian authors is low (although the first review article that we published recently was multi-authored from Edinburgh and Hyderabad; Whitelaw *et al.*, 2016). A curiosity that I came across when writing this review occurred in 1980, when the 'Back Matter' (text appearing after the articles) included not only the contents for that issue, but also the complete contents of the Indian Journal of Dairy Science, volume 32 issue 2. The previous year there was also reference to the Australian Journal of Dairy Technology, which was published between 1946 and 2010. Neither I nor our publisher at Cambridge University Press can explain these mentions other than to assume that there was philanthropy between Journals at that time. The Indian Journal of Dairy Sciences is still published by the Indian Dairy Association and, in their own words, '*is circulated in the various parts of the country and to the nations abroad…*'. This in no way detracts from the welcome that the Journal of Dairy Research will offer to authors from the Indian sub-continent! To bring our geographical coverage up to date, during 2019 we received submissions from 52 countries, including 29 from India, exactly the same number that came from China but far fewer than the 50 articles submitted from Brazil. In the current issue we publish an article from Burkina Faso, exploring starter cultures for African spontaneous fermented milks such as Lait caillé and we shall shortly publish articles from Cuba, Cyprus and Nepal.




**Fig. 1.** Diagrammatic representation of the native tongue of authors published in Journal of Dairy Research in 1990 and 2010. Author names have been replaced by coloured bars, where each yellow bar represents a native English-speaking author, whilst each red bar is an author whose native tongue is not English. The white bars are gaps between adjacent letters of the alphabet. Classification is based on surname and affiliation and a few individuals may be misclassified, for which I apologise.

In modern society much attention is given to the nutritional value of milk and dairy products, some of it alarmingly inaccurate. A PubMed search for reviews of the topic found our recent Invited Review of milk-borne bioactive peptides (Vargas-Bello-Perez *et al.*, 2019) and two other articles from the 1980s (neither was a review!) but failed to identify a series of nutritive value reviews published by the Journal between the 1930s and 1960s, initially as part of a much larger series 'Biennial Reviews of the Progress of Dairy Sciences'. Reviews were a major feature of the earlier volumes and were amazingly comprehensive, a 1940 review of dairy chemistry listed 233 references for instance, 36 of which were from the Journal of Dairy Research and 43 from an American journal with a similar name. Our review of dairy animal diseases in the same year had 320 references, but only 8 and 6 from these same Journals, suggesting that animal health was less of a priority to dairy scientists than it is now. As someone who has always had a research interest in extending the length of lactation, I liked article 255 (yes, they were numbered in those days!) describing lactation persistency in Ayrshire cattle and providing an explanation for the negative correlation between peak yield and persistency (Pontecorvo, 1940). Don't worry, I have no intention of highlighting lots of individual articles! The points I wish to make are firstly, the material is there but needs to be looked for and, secondly, anyone with a serious interest dipping into even just one or two issues is likely to find a gem that persuades them to go back again and, finally, considerable current research effort would probably be better directed or, in some cases, obviated if we had an improved knowledge of what has gone before. The Journal continued to publish review articles but at lower frequency through the decades spanning the Millennium until in 2016 we reintroduced more regular Invited Reviews as well as Research Communications, a format that had existed before but had then been abandoned. New for 2020 are Research

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Reflections, shorter review articles (that can also be written as Opinion Papers or data-less hypothesis-based papers) and Letters to the Editor. In its past the Journal has also, on occasion, produced Special Issues on specific topics. One of these, published in 2005, concerned outcomes from an EU COST Action on mammary gland biology (Baldi and Wilde, 2005) and this year we plan to publish another COST Action Special Issue, this time with a focus on dairy animal health and welfare. If this Editorial has given you a taste for exploring the earlier volumes of the Journal, please take the time to identify your favourite historically-important papers, since in the Summer we shall publish an online Virtual Issue and you can help to choose the content. As part of our commitment to accessible publishing, both the Special Issue and the Virtual Issue will be Open Access. This Anniversary Year is a special one for the Journal, and we hope that you will share with us in celebrating ninety years of innovative and impactful dairy research.

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