

## **20TH CENTURY VETERINARIANS: JOURNEY FROM ART TO SCIENCE**

**Author :** Bruce V Jones

**Categories :** [Vets](#)

**Date :** October 5, 2009

**Bruce V Jones** reflects on the changes in veterinary life over a century of diverse changes, and compares the vet's role – in the past, present and future

**MANY years of retrospective judgement are needed to describe a century in a few crisp words: for the 20th, terms such as war, revolution, discovery and technological progress will most likely feature.**

It was 100 years of immense change, which saw some of humanity's greatest achievements, as well as some of its worst excesses. These affected the veterinary profession as much, if not more – through some events – than other occupations.

The 1900s opened with a still young profession (the Royal College's charter had been granted in 1844) composed entirely of men who were almost exclusively dealing with horses.

The century closed with a profession that was rapidly being dominated by women, mostly practising from hospital facilities devoted to dogs, cats and other pet animals. This change of sex in the professional majority was initially fought with what seems now to be irrational logic.

The presidencies of the RCVS, BVA and BSAVA (and other bodies) were found to function as well (if not better) with female leadership.

In the 1960s, the introduction of a paraprofessional group – veterinary nurses – was again initially

opposed, but within a few years it was seen as an indispensable part of a veterinary clinical environment. By the end of the century, educational courses were moving towards degree level. Over the years, with such changes, the profession grew in both stature and understanding.

At the same time, the genuinely omnicompetent (but essentially equine) practitioner of the 1900s moved towards the specialist (but still claimed omnicompetent) clinician of the 2000s. This broadening by species involvement and narrowing by speciality interest was created by an educational revolution: from four privately funded veterinary schools at the outset, to six schools 100 years later (excluding the Dublin college) – all integrated into the university system. That integration was fought against by many die-hards, but it finally came about on acceptance of the 1938 and 1944 Loveday reports; it also enabled access to funding for improved facilities.

The integrated schools, with their new funds, provided a better environment for the performance of veterinary research at all levels, from fundamental investigations to clinical studies.

In 1922, there were five fulltime veterinary research workers in the UK, working in only two research laboratories. Staff at the veterinary schools were overworked and too short of money to be able to engage in much research. This situation improved with the foundation of the Agricultural Research Council in 1933, and by the growth of pharmaceutical company research from the late 1940s.

With growth in school numbers, grant-aided education and the opportunities for the utilisation of a veterinary degree, the century produced some significant changes. In 1900, there were 3,417 members of the RCVS, 452 (estimated) students and 78 new graduates. By 2000, these figures had grown to 19,226, 2,859 and 480 respectively; 34 per cent of RCVS members were women. However, the inter-war years were a period of low intake – growth really occurred after the Second World War.

These radical transformations in veterinary education and research happened against a background of social, economic and political change. Steam and motorised transport, shifting demands and fortunes in agriculture, and rising disposable income all resulted in a changing emphasis in species care.

## **Military service**

Another transformation involved the Army's role. In 1900, it was an important outlet for veterinary work for the maintenance of both cavalry and transport horses. Additionally, the Indian army's interests expanded to include vaccine production, veterinary schools and horse breeding, which provided an important need for veterinary expertise.

The military role rose to its zenith in the First World War, with the horrendous loss of eight million equines – not in their traditional cavalry role, as most of these were lost in providing backup to

trench warfare. The Army Veterinary Corps (not “Royal” until 1918) was mainly active in France and Belgium, but was on almost every continent with horses, mules and camels. Some 1,700 veterinarians served during the First World War. The Second World War saw active army service again, mainly with mules in the campaigns in Italy and the east, particularly in Burma – 513 veterinarians saw active service during this period.

By 2000, the veterinary role within the Army was much reduced, being mainly related to food inspection, chemical, nuclear and biological warfare, and to the use of dogs for defence, tracking and detection; in addition, the veterinary ranks now included female officers.

While in 100 years the Army’s place in veterinary medicine had moved from important to one of minor significance, such a sentence underplays its function, frequently vital, in both major wars. The unwitting role of the millions of horses, mules and dogs in these conflicts is remembered by the long-overdue and evocative memorial erected in Hyde Park in the early 21st century.

## **Changing role**

The profession’s work emphasis moved, over the century, from horses to household animals. However, this simplistic summary overlooks the impressive results achieved in the control of farm livestock disease. As a direct result of veterinary intervention, enhanced production was the major factor in the growth of the dairy, pig and poultry industries. Beef and, to a lesser degree, sheep output also showed significant improvements.

As equine practice declined and motor vehicle use grew, the profession tried to carve out a more extensive role in the previously small livestock sector. This moved ahead in the 1920s and 1930s, but it was during the Second World War that the case was made for more extensive employment in agriculture. During this time, the need for improved national livestock production was highlighted, demonstrating the important role that veterinary clinical and research inputs could play.

This relationship grew in the latter half of the century, aided by state subsidies and new technical resources.

Veterinary expertise developed swiftly, alongside the recognition of biosecurity’s needs; specialist farm units rapidly expanded in both size and their intensive production output. Such developments changed practice operations – with bigger farms, fewer veterinarians were needed. At the same time, the need to fill demand in small animal practice accelerated. While practitioner numbers fell in the livestock sector, the specialisation level leaped ahead, leading to an ability to better understand and control herd and flock health.

As public and state services expanded during the first two-thirds of the century, so did the demand for veterinary expertise. The creation of a state veterinary service in 1866 resulted in (an initially) slow growth in inspection, diagnostic and research functions, together with all the associated

routine bureaucracy.

Major diseases were eradicated, specific vaccines produced and effective control procedures devised, with peaking in the 1960s. This highly effective structure was then weakened by a gradual reduction in the number of veterinarians and a relinquishment of certain functions. The perceived need was not appreciated by the political masters of the civil service due to the declining importance of agriculture, government financial cuts and the transfer of certain functions to the EEC.

However, with an increased burden of legislation in meat production, surveillance and local government, veterinarians were finally awarded responsibility for meat hygiene and animal-related regulations.

The latter half of the century saw welfare societies caring for dogs and cats and organisations devoted to horses and other species; many of these activities required veterinary involvement.

By 2000, only 79 per cent of the total profession was in clinical practice, but the opportunities for the utilisation of a veterinary degree had expanded. Not only in the occupations described previously, but also in the pharmaceutical and agricultural industries, and as wildlife and zoo practice experts, television presenters, widely read authors and, in many cases, outside the veterinary environment. The five years plus of veterinary education provided training for many other spheres of interest.

## **Skills growth**

The most momentous change, however, was in the expansion and advancement of the profession's clinical skills.

Before 1935, in specific medication terms, the profession (as in human medicine) could do relatively little for its patients.

Surgery was limited to mostly external interference in livestock and horses, with some internal procedures in dogs and cats. Anaesthesia (usually chloroform) was a risky procedure – apart from morphine and early anaesthetics, there was little one could do except to treat symptoms. It could be argued that, before the introduction of many technical aids, practitioners had better clinical skills and were more concerned with good husbandry. I believe there are elements of truth in this statement, but the subject is beyond the scope of this overview.

Following the introduction of sulphonamides in the 1930s and penicillin in the late 1940s, there was an almost constant stream of discoveries: pharmaceutical innovators in antibiotics, antibacterials, corticosteroids, hormones, anaesthetic agents and endo and ectoparasiticides. These were followed by behaviour-modifying and geriatric specifics, cancer control drugs, enhanced nutritional

understanding in all species and specific dietary foods for dogs and cats.

The use of biological products developed early in the century, as the state veterinary department produced a contagious abortion vaccine in the 1910s. The Scottish Moredun Institute made major advances in sheep vaccines in the 1920s. Swine erysipelas vaccine and antisera, and swine fever vaccine – together with tuberculin and mallein – entered into general use, in addition to effective distemper vaccines.

From the early 1960s, targets expanded rapidly in viruses, rickettsia and even parasites. Innovation and extension continued at an incredible rate, boosted by advances in biotechnology, particularly in the last quarter of the century. In this period, genetic knowledge also marched ahead (continuing in the 21st century), unravelling the genome of the major species with the promise of a multifirmity of advances.

With this explosion in pharmaceuticals and medications came a similar expansion of surgical techniques, imaging procedures, and diagnostic and other technologies, mostly derived from advances in human medicine.

Surgical advances in all species, particularly dogs, cats and horses (and the associated aftercare and intensive care) came to dominate the public perception of veterinary activity. It appeared that any procedure that could be performed on humans, with the most advanced methods, could not only be duplicated in animals, but was expected; cost almost became the only limiting factor.

The evolution of the veterinary hospital, with purpose-built premises for all species (mostly dogs, cats and equines) was, by the 1990s, the characteristic of clinical practice.

Veterinary practice developed business and managerial skills, operating with financial expertise to control cash flow, deal with VAT, credit card use and, increasingly, regulatory controls. Pet insurance became important and could be said to have helped develop the use of expensive procedures and technologies.

By the century's end, house calls were a rarity, and animal ambulances were becoming common. Well-equipped hospitals, alongside specialist referral centres, were the norm. However, the growth of corporately owned veterinary practice chains was significant by 2000, hinting of important changes in the financing and ownership of future veterinary practices.

One can only wonder how the single-handed practitioner of 1900 (with his work reliant on the horse and forge) would gaze in astonishment if transported to the small animal practice of 2000, with its facilities, staff numbers, hospital and business management targets (including the sale of foods etc).

In fact, the same could be said of the 1950s graduate: it was in the last 30 to 40 years of the

century where the change came, and it still seems to be rolling ahead.

Costs had now become a significant factor in practice development. For the laboratory worker, to a degree, the lowhanging fruits of research had all been harvested. For the veterinary profession the 20th century was – as much as anything else – a struggle for recognition. Achieving entry into the university system and funding for research were two vital prizes. The veterinary art emerged as a science, and moved to take its place alongside other participants in the over-arching discipline of medicine.

However the profession enters the next, now current, century with the realisation that, while it has made incredible advances, it still faces serious problems, both internal and external.

What of the 21st century: few would dare to act as prophet, so who could have foreseen the changes of the 20th century?

One little question: will the profession continue to retain its antiquated title of “veterinary surgeon”, which was initially just an army designation to differentiate veterinary graduates from human surgeons in 1796, or will it move to adopt its original and more accurate title of “veterinarian”, or even “doctor”? It is probable that much more important matters will occupy the veterinary corporate mind.

- References available upon request to the editor.



***The world of animals and veterinary care has had a tumultuous century – but what's on the horizon?***

Photo: SXC/Nate Brelsford.





***The role of equines changed considerably during the 20th century.***

Photo: PATRICK HAJZLER.



***There has been a marked shift towards small animal practice over the years.***

Photo: SXC/PAKIZE ÖZTÜRK.



***“One can only... wonder how the single-handed practitioner of 1900... would gaze in astonishment if transported to the small animal practice of 2000.”***

Photo: SXC/PAKIZE ÖZTÜRK.

