

Captain Graham on Irish Wolfhounds

By Captain George A. Graham. Originally published in The Kennel Encyclopædia, Vol. II, pp. 847-861, Sheffield 1908, J. Sidney Turner, editor. According to the late Tony Doyle, the following is presumably the very last article that Captain Graham ever wrote on the subject of Irish Wolfhounds. SU.

The history of the Irish Wolfhound, or Wolfdog, as he was formerly called, is shrouded in romance, and in the short space allowed to the writer it is impossible to give anything but the most sketchy history of him. And the reader will realize this when he learns that the first authentic mention of him is made by Consul Quintus Aurelius Symmachus A.D. 391, in which year seven of these dogs were sent to Rome to fight lions, bears, and Saxons in the Circus. Apparently the Saxons did not thoroughly enter into the spirit of the fun, as they committed suicide the night before the sports.

Irish history is full of the doings of the Wolfdog, or Mil-chû, as the ancient Irish Chieftains called them. They appear to have been used in war, as well as in hunting, and to have been held in great reverence, only Princes and Chiefs being allowed to keep them. They appear as the supporters on the arms of the ancient Kings of Ireland with the motto "Gentle when stroked, fierce when provoked." King John of England presented one to Llewellyn, a Prince of Wales, about the year 1210, and it was this hound, Gelert by name, that killed the wolf that was hidden under the cradle of Llewellyn's heir.¹

About 1336, we find King Edward III. sending his huntsman to bring him Wolfdogs from Ireland, to hunt the wolves that were causing such destruction in England. The Spaniards also used him for wolf hunting as long ago as 1545, as in this year, King Henry VIII., writing to the Lord Deputy, asked him to send some to friends of his in Spain. Good Queen Bess had some of the dogs sent, about the year 1562, by the Irish Chieftains Shán O'Neill; and about thirty years later, King Henry the Great of France wrote to Ireland for some, to help him to hunt wild boars. King James I., in 1614, granted a patent to one of his Irish subjects to keep twelve couple of Wolfdogs in each county, to protect the farmers' flocks from the ravages of wolves. Nor were the Spaniards alone in securing Wolfdogs for hunting, as besides being imported to England and Scotland, the animals were sent as presents to the Kings of Sweden, Denmark, Persia, France, Spain and India. Indeed, so much were they sought after, that Ireland bade fair to be denuded of them, and wolves increased to such an extent, that Cromwell issued an order prohibiting the exportation of "wolfe dogges"; but this order does not seem to have been strictly carried out, as we find the Duke of Ormonde, Lord-Lieutenant of Ireland in 1678, sending Wolfdogs to the Kings of Spain and Sweden.

According to *The Gentleman's Recreation*, published in 1677, the following rewards were paid for the killing of wolves:

"For encouragement to the meander sort in Ireland, whosoever took a sucking Whelp, or preying Cub, a Dog, or a Bitch-Wolf, and brought but the Head of either to the next Justice of Peace, for reward for the first, he received twenty shillings; for the second, forty; for the third, five pound; and for the last, six pounds; which late encouragement hath in a manner cleared that Kingdom of them."

¹ This same story is told with slight variations as regards the persons and places of the occurrence. It is said to be engraved on a rock at Limerick; it is told in an old English romance; it is repeated in France; and is the subject of Persian drama. – GENERAL EDITOR

Consequent on the extermination of wolves in Ireland, the number of Wolfdogs greatly decreased, and the quality greatly deteriorated as they were chiefly kept for State ceremonies. Goldsmith writing in 1770 about Irish Wolfdogs, states that he had seen over a dozen, and that the largest was four feet high [122 cm], which seems impossible. Probably he meant the height at the top of the head, not at the shoulder. Smith, writing in 1774, states that they were much larger than a mastiff and more like a greyhound; and that for size, strength, and shape, they could not be equalled, but that they were nearly extinct. Lord Altamount owned some Wolfdogs in 1795, but they were small in size, about twenty-eight inches [71 cm] at shoulder, but, judging from the skulls of Irish Wolfdogs that have been found in bogs in Ireland, the size did not exceed thirty-two inches [81 cm].

In 1815, we learn of a genuine Wolfdog – “Bruno” by name – being then alive. He was a tall, gaunt dog; rough, but not long-coated. In 1825, we have an account of an Irish Wolfhound tackling a bear single-handed in Canada, which shows that the strength, power, and courage of these hounds had not deteriorated. In 1838, two Irish Wolfdogs were sent from England to the United States. They were brindle in colour, much larger and heavier than the Deerhound, although they were declared to be equally fleet.

Richardson in 1841, got together as many of the Irish Wolfdogs as he could, and continued the breed, which Sir John Power, of Kilfane, kept up; and he, Mr. Baker, of Ballytobin, and Mr. Mahoney, of Dromore, were the last Irishmen who really strived to keep up this magnificent breed. In the year 1862, the writer took up this breed and since then, his life has been devoted to it. Fortunately, Sir John Power was a friend of his, so he started with the purest possible blood of the Kilfane and Ballytobin strains.

The present breed of Irish Wolfhounds has been built up by bitches obtained from these two kennels, crossed with the Scotch Deerhound, a very similar but much slighter dog. It will thus be seen that although we have not the breed in its original integrity, yet the writer confidently believes there are strains now existing which may be traced back, more or less clearly, to the original breed. That we have in the Deerhound the modern representative of the Old Irish Wolfdog is patent, though of less stature, less robust, and of slimmer form.

In 1879, the Kennel Club established a class for Irish Wolfhounds, and though some of the specimens shown would now be jeered at, yet this was the turning point in the struggle to re-establish this breed. In 1886, the official seal of approval was affixed to the breed by the Kennel Club granting them classes and registration.

Irish Wolfhounds should somewhat resemble the Scotch Deerhound, but should be much taller, heavier, and more massive. They should be active and fast, but of course their weight prevents their being absolutely as fast as a Deerhound. Their necks should be thick in comparison to their form and very muscular, and they should have a long body and frame. Their heads should be long but not narrow, coming to a comparative point towards the nose; the nose itself should be rather large, the head gradually getting broader up to the back of the skull; not sharp up to the eyes and then suddenly broad and lumpy, as is often the case with dogs bred between Greyhound and Mastiff.

There can be no doubt that from the very nature of the work which the Wolfhound was called upon to do, his coat should be rough and somewhat shaggy in nature. The ancient Irish harp, known as the harp of Brian Boriumlea, now preserved in Trinity College, Dublin, is ornamented with the figure of a very rough-coated Wolfhound. Reinagle, in his picture of the Irish

Wolfhound, painted in 1803, a photograph of which is included, shows him with a rough coat. The former Earls of Caledon also owned Irish Wolfdogs, rough in coat; hence it seems certain that the coat should be thoroughly rough, hard, and long all over the body, head, legs, and tail; that the hair on the head should be long, and rather softer than on the body, standing out boldly over the eyes; and that the beard should be very marked and wiry.



Reinagle Wolfdog, 1803

The colour of Wolfhounds should be either black, grey, brindle, red, or fawn, though white dogs were much esteemed in former times. The ears should be small in proportion to the size of the head, and half erect, as in the smooth Greyhound. The tail should be long and slightly curved, of moderate thickness, and well covered with hair. The size must be such that the Wolfhound can keep up with and tackle a wolf. The usual size of a wolf would be about thirty inches [76 cm]: therefore the height of a Wolfhound dog should be 33 to 34 inches [84-86 cm]; girth, 36 to 39 inches [91-99 cm]; weight, 130 to 145 lbs. [59-66 kg]; girth of forearm, 8 to 9½ inches [20-24 cm]; length of head, 12 to 13½ inches [30½-34 cm]; whilst for a bitch, the following measurements should be sought after: Height, 30 to 31 inches [76-69 cm]; girth, 33 to 36 inches [84-91½ cm]; weight, 100 to 120 lbs. [45-54 kg]; girth of forearm, 7½ to 8½ inches [19-21½ cm]; length of head, 10½ to 11½ inches [26½-29 cm].

The following is the standard of points laid down by the Irish Wolfhound Club:

General Appearance – The Irish Wolfhound should not be quite so heavy or massive as the Great Dane, but more so than the Deerhound, which in general type it should otherwise resemble. Of great size and commanding appearance, very muscular, strongly though gracefully built, movements easy and active; head and neck carried high; the tail carried with an upward sweep, with a slight curve toward the extremity. The minimum height and weight of dogs should be 31 inches and 120 lbs. [79 cm, 54½ kg]; of bitches, 29 inches and 90 lbs. [73½ cm, 41 kg]. Anything below this should be debarred from competition. Great size, including height at shoulder, and proportionate length of body, is the desideratum to be aimed at, and it is desired to firmly establish a race that shall average from 32 to 34 inches [81-86 cm] in dogs, showing the requisite power, activity, courage and symmetry.

Head – Long, the frontal bones of the forehead very slightly raised, and very little indentation between the eyes. Skull, not too broad. Muzzle, long and moderately pointed. Ears, small and Greyhound-like in carriage.

Neck – Rather long, very strong and muscular, well arched, without dewlap or loose skin about the throat.

Chest – Very deep. Breast, wide.

Back – Rather long than short. Loins arched.

Tail – Long and slightly curved, of moderate thickness, and well covered with hair.

Belly – Well drawn up.

Fore-Quarters – Shoulders muscular, giving breadth of chest, set sloping. Elbows well under, neither turned inwards nor outwards. Legs – Fore-arm muscular, and whole leg strong and quite straight.

Hind-Quarters – Muscular thighs and second thigh long and strong, as in the Greyhound, the hocks well let down and turning neither in nor out.

Feet – Moderately large and round, neither turned inwards nor outwards. Toes, well arched and closed. Nails, very strong and curved.

Hair – Rough and hard on body, legs, and head; especially wiry and long over eyes and under jaw.

Colour and Markings – The recognised colours are grey, brindle, red, black, pure white, fawn, or any colour that appears in the Deerhound.

Faults – Too light or heavy a head, too highly arched neck; full dewlap; too narrow or too broad a chest; sunken or hollow or quite straight back; bent fore-legs; overbent fetlocks; twisted feet; spreading toes; too curly a tail; weak hind-quarters and a general want of muscle; too short a body.



Great Dane from the time that the Irish Wolfhound standard was written



Deerhound from the same time period

In the breeding of Irish Wolfhounds the same principles apply as in the breeding of all other dogs, namely, only to breed from the best possible strain available, and from only the soundest of the breed. As regards the bitch, the writer is strongly of opinion that only bitches of well-matured age should be used, as Wolfhounds do not reach maturity till two years old; also that they should only be bred from once in the year, and, for choice, a spring litter should be aimed at, so that the whelps may have all the summer before them, to enable them to get through all their puppy ailments with everything in their favour; as, once over the first six months, they are strong and hardy and better able to withstand any disease such as distemper.

The choice of a suitable stud dog is especially important in this breed, as, owing to the in-breeding that has been necessary in the past, many of our breeders use dogs too closely related to the bitches. An all-round sound dog of medium height, is far preferable to an overgrown, badly-shaped, crooked-legged giant, for size, though most important, cannot in any way make up for unsoundness. In the past the use of crooked-legged dogs was pardonable, but now it is absolutely inexcusable.

Breeders should remember that in breeding, the question of ancestors, is a most important one, and that a small dog, descended from large ancestors, is more likely to breed large dogs than is a large dog from small ancestors. A large dog from large ancestors is the dog, par excellence, to select. The writer believes, with Colonel Garnier, that the following rules are the correct ones to recognise, viz.

1. That quality (i.e. "blood", nervous development, vigour, energy and character) is very much more dependent on the dam than on the sire.
2. Bone or size, on the contrary, is far more dependent on the sire.
3. Colour is almost wholly dependent on the sire.
4. The coat is almost wholly independent of the sire.
5. Muscular development and general form is chiefly dependent on the dam.
6. All these are modified by the fact that the purer bred parent will (other things being the same) influence the progeny more than any other.

Great care is needed in the rearing of Irish Wolfhounds, owing to the enormous growth they have to make before they are fully developed. The whelps should be allowed to suckle as long as possible, i.e. as long as they show signs of health and growth, provided the dam will let them. The writer has found that where a foster-mother has been obtained to aid the dam, the whelps on the Wolfhound prosper better than on the foster-mother, possibly owing to the milk being stronger. The writer weans his whelps as late as possible and substitutes Mellin's or Benger's food made with cow's milk, for their natural food. To this diet, powdered dog biscuit is, after a time, gradually added, and if the whelps show any signs of rickets or a deficiency of bone, a pinch of phosphate of lime is added once a day, and, if necessary, increased.

The great thing to remember in rearing whelps, is that they must be fed often and little at a time. The writer gives his hounds raw meat, also dog biscuit broken up and soaked in strong soup made from calves' or sheep's heads and bones, the boiled meat of which is cut up and mixed with the dog biscuit. Green vegetables are also boiled up in the soup, or green nettles, if available. Occasionally, oatmeal porridge or dry dog biscuit is given in lieu of the soup and biscuits, and a great thing to remember in feeding, is that the hounds need variety and that some are very bad "doers" whilst others are regular gluttons.

Whelps, when once weaned, should never be shut up except at night, or in bad weather, as they *must* have exercise or they soon develop crooked legs. When the whelps are about six weeks old they should be given a mild dose of worm medicine; but with every care, the young of this breed are difficult to rear; though when once reared they are very hardy. Regular daily exercise, and at least 10 minutes daily grooming, are absolutely necessary to keep these hounds in perfect condition.

The following tables showing the height, girth and weight of Ch. "Cotswold Patricia" and "Wolf Tone" from two months to one year old, may be of interest to breeders, as showing the different ages at which development takes place in different hounds.

Age (months)	"Cotswold Patricia"			"Wolf Tone"		
	Height (ins/cm)	Girth (ins/cm)	Weight (lbs/kg)	Height (ins/cm)	Girth (ins/cm)	Weight (lbs/kg)
2	13 / 33	–	24 / 11	16 / 40½	–	28 / 13
3	17 / 43	23 / 58½	40 / 18	22 / 56	25½ / 64¾	47 / 21
4	21 / 53	25 / 63½	66 / 30	25 / 63½	29 / 73½	64 / 29
5	25 / 63½	26 / 66	71 / 32	27 / 68½	31 / 78¾	75 / 34
6	28 / 71	28 / 71	95 / 43	28½ / 72½	33 / 83¾	90 / 41
7	29 / 73½	30½ / 77½	108 / 49	30 / 76	33½ / 85	96 / 44
8	30 / 76	31 / 78¾	115 / 52	31 / 78¾	34 / 86½	103 / 47
9	30 / 76	31½ / 80	120 / 54	31¾ / 80½	34½ / 87½	107 / 49
10	30½ / 77½	32 / 81	124 / 56	32¼ / 82	35 / 89	112 / 51
11	30¾ / 78	32½ / 82½	128 / 58	32¾ / 83	35½ / 90	116 / 53
12	31 / 78¾	33 / 84	130 / 59	33¼ / 84½	36 / 91½	120 / 54

Fortunately for farmers, but unfortunately for the breed, wolves have ceased to exist in Great Britain, but in India, Russia, Canada, and America, Irish Wolfhounds are still used in hunting their ancient enemies, and letters received by the writer show that their courage and fleetness are still unimpaired. Major-General L. Deming, C.B., D.S.O., when home from India on leave, about two years ago, told the writer how one of his Irish Wolfhounds chased, tackled and killed a wolf single-handed, and that he had used them successfully for some years. They are also used at deer by Mr. K. M. Angelo, on his moor in Inverness-shire for the following purposes: Either to course stags, or to track wounded ones. The procedure in the former case is for the Gillies to track the stag and as soon as they catch sight of him, to slip a couple of hounds. These are trained to catch the stag first by the hock (which they often break) and then by the throat, but they are never allowed to touch any other part of him.

The hounds that are used in tracking a stag are never allowed to run an unwounded one, and a well-trained hound will soon know when a stag has been wounded and will follow no other. Mr. Angelo says: "I invariably send an Irish Wolfhound out with each rifle, and if there is a suspicion that the stag is wounded, he is brought up, and if he shows by his manner that there is blood, he is let go and soon scents his game and runs into him. It is a mistake to suppose that they only run by sight. They are very keen scented, and I often use them to track when the stags have been lost sight of."

The writer knows of few prettier sights than that of seeing Mrs. Percy Shewell's Ch. "Cotswold", Ch. "Cotswold Patricia," and "Cotswold Dermot," clearing a five-barred gate in their stride when chasing a hare or rabbit, though to allow Irish Wolfhounds to run either of these is most

dangerous, as many a broken leg has resulted from it, through their trying to make too quick a turn.

The above-mentioned hounds, when out at exercise on the Cotswold Hills came across a stag which had strayed out of a neighbouring park to which they at once gave chase, but after a six miles' run he beat them by jumping over a park wall some seven feet [2.1 m] in height.

An Irish Wolfhound will attack any living thing, from a rat to a bear, and a writer in 1825 gives a graphic description of how an Irish Wolfhound tackled a bear single-handed. On the other hand, the writer has seen them tackle rats like a terrier.

“The Irish Wolfhound Club” is the only Club now existing which looks after the interests of this magnificent breed. The writer started it in 1884 with a view to promote the more complete recovery of this grand dog, and to firmly establish the race, by endeavouring to make the qualities and type of the breed better known. He has been President for many years, and was in 1904 presented with a very handsome silver salver with the names of all the members of the club engraved on it, which he prizes most highly. The Club is in a most prosperous condition, having a reserve fund of £ 200, and offers valuable prizes and challenge cups at all Shows for competition amongst its members, the majority of whom are Englishmen. But Irishmen seem at last to have awakened to the fact that the Irish Wolfhound is their national dog, and steps are being taken in Ireland to popularize the breed in that country.



Ch. “O’Leary“

The names of the following breeders occur to the writer as being worthy of special mention in regard to the improvement of the breed, to which he may perhaps be allowed to say, without being egotistical, he has played a not altogether unimportant part. Probably the best hounds which he ever bred were Ch. "Dermot Astore," by "Brian 2nd" ex "Nookoo," "Myshall," by Ch. "Dhulart" ex "Sheelah," and Ch. "Dhulart," by "Hydra" ex Ch. "Sheelah." The late Mr. George Crisp, of Playford Hall, near Ipswich, bred that grand dog Ch. "O'Leary," whose photograph appears here, by "Brian II." ex "Princess Oona" from whom all the best dogs of the day are "nearly" descended. Mr. Crisp began his strain with hounds obtained from the writer.



Ch. "Cotswold"

Colonel Garnier, R.E., played a prominent part in breeding Irish Wolfhounds in their earlier days, as also did the Honourable Miss Dillon, Miss Aitcheson (who bred "Cheevra"), Mr. Townsend, Mr. Baily (who bred "Shielela I.," Ch. "Shielela II.," "Luath," and many others), Mrs. Williams, Mrs. Gerard (who bred Ch. "Marquis of Donegal," "Princess Patricia of Connaught," "Rajah of Kidnal," and many others), Mr. Martin (who bred "Connaught"), Mr. Howard (who bred "Leinster," "Tyrconnel Oge," "Kilfane," and "Shournagh"), Mr. Everett (who bred "Felixstowe Yirra," and many others), Mr. Birtell (who bred Ch. "Wargrave" and Ch. "Artara"), all of whom contributed materially to the development of the breed.

At the present time (1907), the leading hounds are owned by Mrs. Percy Shewell, bred by her from the choicest stock obtained from other breeders. The principal are Ch. "Cotswold," whelped 7th March, 1902, who stands 34¼ inches [87½ cm] at shoulder, and weighs 155 lbs.

[70 kg]. He is a wheaten colour, with long head and body, great bone and girth, and absolutely straight on his legs. He is by Ch. "O'Leary" ex "Princess Patricia of Connaught." This most typical hound has beaten every one shown against him, and has won 18 Championships and innumerable first and special prizes as well as having won outright the Cup given at the Kennel Club Show for the most typical Wolfhound. He is the writer's ideal of what an Irish Wolfhound ought to be: his photograph appears here. Ch. "Cotswold Patricia," whelped 24th January, 1904, whose photograph appears here, is by "Wolf Tone" ex "Princess Patricia of Connaught." She stands 31½ inches at shoulder [80 cm], and weighs 135 lbs. [61 kg]. She is a light brindle, of enormous bone, with wonderful legs and feet, and great freedom of movement. She has beaten every bitch she has been shown against, and won some eight Championships and numerous firsts and specials. "Cotswold Dermot," (whose photograph is here shown), is a light brindle, and only just fully developed, having been whelped 17th March, 1905. He stands 34½ inches at shoulder [87½ cm], and weighs 150 lbs. [68 kg]. He is by Ch. "Cotswold" ex "Iris" ("Iris" is by "Marquis of Donegal" ex "Nuala"), and should make a grand stud dog. He has wonderful bone, and is as active as a cat, with lovely legs and feet.



Ch. "Cotswold Patricia"

The following hounds are also worthy of special mention: "Tyrconnel Oge," the property of Lady Nesta Fitzgerald, by "Marquis of Donegal" ex "Nuala." Ch. "Gareth," the property of Mr. Hall, by Ch. "Dermot Astore" ex "Tynagh" (by Ch. "O'Leary"). "Wildcroft," the property of Miss Clifford, by Ch. "Dermot Astore" ex "Tynagh." "Cotswold O'Leary," the property of Lady Sybil Grant, by Ch.

“Cotswold” ex “Iris.” “Wickham Lavengro,” the property of Miss Packe, by “Finn” ex “Wickham Sheelah.” “Lufra Rhu,” the property of Mrs. Marshall, by “Zako” ex “Brenda.” “Kilfane,” the property of Viscount Powerscourt, by “Connaught” ex “Nuala.” “Chevet Cassidy,” the property of Lady Kathleen Pilkington, by “Wolf Tone” ex “Chevet Lassie.”



“Cotswold Dermot”

The following hounds which have left their mark must also be mentioned, and though they have joined the great majority, yet no article on the breed would be complete without them: Ch. “Wargrave,” bred by Mr. Birtell, by “Brian II.” ex “Teufella.” Ch. “Artara,” bred by Miss Pope, by Ch. “Wargrave” ex “Laragh.” “Felixstowe Emo,” bred by Mr. W. Allen, by Ch. “O’Leary” ex “Lady Kathleen.” “Wolf Tone,” bred by Mrs. Compton, by Ch. “Wargrave” ex “Colleen.” Ch. “Dermot Astore,” bred by Capt. Graham, by “Brian II.” ex “Nookoo.” Ch. “Sportella,” bred by Mrs. Gerard, by Ch. “Dermot Astore” ex “Cheevra.” Ch. “Shielela II.,” bred by Mr. Baily, by “Myshall” ex “Evir.” Ch. “Pomona,” bred by Mr. G. Crisp, by “Bran II.” ex “Princess Oona.” Ch. “O’Leary,” bred by Mr. G. Crisp, by “Bran II.” ex “Princess Oona.” Ch. “Marquis of Donegal,” bred by Mrs. Gerard, by Ch. “Dermot Astore” ex “Cheevra.” “Cheevra,” bred by Miss Aitchison, by “Garryowen” ex “Raheen.” “Bran II.,” bred by Mr. Angelo, by “Balör” ex “Hilda.” “Brian II.,” bred by Capt. Graham, by “Gara” ex “Zarah.” “Dhulart,” bred by Capt. Graham, by “Hydra” ex Ch. “Sheelah.”

The writer is of opinion that the present type shows an enormous advance on that of late years, and except for greater uniformity there can be but little improvement.

But a firm stand must be made against awarding prizes to hounds that are not absolutely sound, as the breed is essentially a galloping one, and meant for rough as well as fast work; and therefore coat, soundness of limb, and freedom of action, must be insisted on. Girth is also most essential, as without it, the necessary lung and heart action is impossible.

The writer knows by experience how hard it is to judge freedom of action in the show ring, as he has seen hounds which he knows, from having watched them gallop over a country, to be perfect in this respect, taken direct from their cramped benches, where perhaps they have been for 16 hours and possibly a long railway journey as well, and brought into a show ring some 20 feet square [6x6 m] and their necessarily stiff action adversely commented upon. The longer-bodied the hound, the more he is affected, but it is not difficult to detect crooked legs, weak hind-quarters, want of coat, bad feet and legs and unsoundness generally, and the writer is glad to think that in the present day a hound showing these defects, stands but little chance of becoming a "Champion."

Though a "Champion" is not necessarily a better dog to breed from than a non-Champion dog, yet he generally is, and especially is he so to the majority of breeders who will not think for themselves, and therefore use a hound "because he is a Champion."

It therefore behoves all Judges of this breed to see that the unsound hound never receives a place in any class, it being much better to make no award than to give a prize to a hound that may be largely used for perpetuating cripples.

In conclusion, the writer must express his indebtedness to the Rev. Edmund Hogan, for various extracts which he has used from his "History of the Irish Wolfdog," and to Major Percy Shewell for his assistance in compiling this article.

GEORGE A. GRAHAM