

# Bruce Lowe's failed system

19th-century theory struggles when put up against modern technology

BY JASON HALL

CLASSIFICATION SYSTEMS are not synonymous with substantiated theory. Theory and class are meant to be exclusive of one another, with classification systems acting as a mechanism by which information can be organized during theory development. To interchange the two can only lead to a false validity, even in scenarios where the classification system accurately describes various elements of a phenomenon.

The majority of established Thoroughbred breeding theories are geared more toward practical applications of making the best buying and mating decisions. Nicking attempts to identify sire lines with an affinity for one another so that breeders can make better breeding decisions. Dosage attempts to quantify stamina and speed influences within a pedigree to assist breeders aiming for a particular type of individual, while biomechanical advocates look at body measurements as a means of choosing the best investments.

All of these breeding theories have gone beyond classification and have attempted to develop practical applications for breeders. Their effectiveness certainly has come under intense scrutiny, but at the very least, an attempt to move from classification to practical theory has been made by its purveyors. Of all the theories discussed in pedigree circles, there is one that arguably never made the leap to practical application: Bruce Lowe's Figure System.

## System origins

Not surprisingly, Lowe's professional background was in accounting. It was likely his affinity for understanding his world through numbers that led to a parallel perspective on pedigrees. The son of a ship maker, Lowe was born in 1845 in New South Wales, Australia. He died at age 49 after suffering from what historians now believe was untreated diabetes. Lowe's diminishing vision, a symptom of advanced diabetes, was the most likely culprit for not following through with the publication of *Breeding Racehorses by the Figure System*, a responsibility that fell upon his friend and future proponent, William Allison.

It is hard to know exactly why Lowe embarked on creating a figure system. Naturally, he wanted to devise a system to make

more sense of the genetic material in the breed at the time, but it is unclear who prompted the commercialization of the Figure System. Lowe's figures appeared in international sales catalogs as early as 1920 and as recently as 1990, no doubt giving him the necessary credibility to acquire bloodstock clients.

Lowe's résumé should probably be read in two parts: one in reference to his academic and theoretical achievements such as the Figure System, the other as a function of his accomplishments in the bloodstock industry. Modern researchers have a tendency to attach Lowe's name exclusively to the Figure System, but in retrospect, his work as a bloodstock agent was much more commendable than his work with the Figure System. Lowe was responsible for classic winners in both hemispheres and ironically, his purchases oftentimes failed to parallel the principles behind his Figure System.

Regardless, many English and American breeders of the era began utilizing Lowe's "numerology," as it was often referred to, as a means of quantifying the presence of high-quality female strains, while others used the system to balance genetic influences thought to complement one another (typically those lines thought to be of a masculine nature versus those of a feminine tendency), perhaps an early version of nicking.

European societies of the 19th century were of a more superstitious nature—particularly Victorian England, where numerology and



Unlike so many other established breeding theories, Bruce Lowe's Figure System never made the leap toward practical applications of making the best buying and mating decisions

Laura Lacey photo

phrenology were very popular—so theories in all disciplines of life did not need to be rooted in empirical research, as was the case with the Figure System. For those who preferred a more scientific or analytical approach to planning matings and buying bloodstock, the Figure System allowed them to at least operate under their own assumption of statistical validity.

## Overview

Lowe's system was based on the premise that every horse in the modern *General Stud Book* originated via the female family from one of 43 root mares found in Volume I of the *General Stud Book*. Root mares were defined as being of unique genetic material and whose pedigree could not be further traced, though as we would later learn, this was one of a handful of fallacies incorporated into the early parameters of the Figure System.

Once Lowe had identified these 43 root mares, he analyzed each resulting tail-female line as a function of how many wins family members had amassed in the Epsom Derby, Epsom Oaks, and St. Leger Stakes. The number 1 was assigned to the family with the most wins, while the family with the dubious honor of producing the fewest winners was assigned the number 43. Many of the higher-numbered families had yet to produce a winner, so Lowe assigned family numbers according to his subjective appraisal of value.

Ten years earlier, a similar body of work had been amassed and published by German researcher Herman Goos. In *Family Tables of English Thoroughbred Stock*, Goos identified 61 foundation mares in

the original version, but reduced the number to 50 when it was republished two years later.

Goos' work was typically framed as classification tables, rather than information that could be used to plan matings more effectively. Had that same context been applied to Lowe's system, it is unlikely the word system would have ever stuck and its usefulness would not have been so exaggerated during the early parts of the 20th century. Goos' work was more academic by nature, leading to additional works such as *The Family Table of Racehorses* (also commonly referred to as the Bobinski Tables), which designated different branches of specific families with the addition of a letter such as 3-e or 5-b.

Future generations of pedigree researchers, primarily the Society for Promoting Horse Breeding in Poland through what would later become known as the Polish Tables, amended Lowe's system to include additional strains of English families as well as root mares native to America, Australia, Argentina, and Poland:

- Families 1-50: The original families designated by Lowe (1-43) and Goos (44-50);
- Families 51-74: Additional English families;
- Families A1-A37: Female families originating in the U.S.;
- Families C1-C16: Female families originating in Australia;
- Families Ar1-Ar2: Female families originating in Argentina; and
- Families P1-P2: Female families originating in Poland.

Lowe further categorized a handful of his original 43 families into running families and sire families. As their labels indicated, running

## Bruce Lowe's root mares

Family number	Mare	Pedigree
1	Tregonwell's Natural Barb Mare	Unknown
2	Burton's Barb Mare	Unknown
3	Dam of Two True Blues	Byerley Turk—dam unknown
4	Layton Barb Mare	Unknown
5	The Massey Mare	Massey's Black Barb—dam unknown
6	Old Bald Peg	Unknown Arabian—unknown Barb mare
7	Lord Darcy's Blacklegs	Unknown
8	Bustler Mare	Bustler—unknown Byerley Turk mare
9	Vintner Mare	Unknown
10	Oysterfoot Mare	Oysterfoot Arabian—dam unknown
11	Sedbury Royal Mare	Unknown mare from Sedbury Stud
12	Royal Mare	Unknown mare from stud of Charles I
13	Sedbury Royal Mare	Unknown mare from Sedbury, distinct from root mare 11
14	Oldfield Mare	Hale's Bay Turk—dam unknown
15	Royal Mare	Unknown mare from stud of Charles I, distinct from root mare 12
16	Sister to Stripling	Hutton's Spot—dam unknown
17	Byerley Turk Mare	Byerley Turk—dam unknown
18	Old Woodcock Mare	Old Woodcock—dam unknown
19	Davill's Woodcock Mare	Davill's Old Woodcock—dam unknown
20	Daffodil's Dam	Sir T. Gascoigne's foreign horse—dam unknown
21	Moonah Barb Mare	Unknown
22	Belgrade Turk Mare	Belgrade Turk—dam unknown
23	Piping Peg's Dam	Unknown
24	Helmsley Turk Mare	Helmsley Turk—dam unknown
25	Brimmer Mare	Brimmer—dam unknown
26	Merlin Mare	Old Merlin—dam unknown
27	Spanker Mare	Spanker—dam unknown
28	Place's White Turk Mare	Place's White Turk—dam unknown
29	Natural Barb Mare	Unknown
30	Daughter of Duc de	Chartres's Hawker Duc de Chartres's Hawker—dam unknown
31	Dick Burton's Mare	Unknown
32	Royal Natural Barb Mare	Unknown
33	Sister to Honeycomb Punch	Taffolet or Morocco Barb—dam unknown
34	Hautboy Mare	Old Hautboy—dam unknown
35	Bustler Mare	Bustler—dam unknown
36	Curwen's Bay Barb Mare	Curwen's Bay Barb—dam unknown
37	Sister to Old Merlin	Bustler—dam unknown
38	Thwaite's Dun Mare	Akaster Turk—dam unknown
39	Bonny Black	Black Hearty—dam by Lord Howe's Persian Stallion
40	Royal Mare	Unknown mare from stud of Charles I, distinct from root mares 12 and 15
41	Grasshopper Mare	Grasshopper—dam unknown
42	Spanker Mare	Spanker—dam unknown, distinct from root mare 27
43	Lord Arlington's Natural Barb Mare	Unknown

families were best known for getting winners of the English classics, while sire families were more likely to produce winners of these races. Running families included 1 through 5, while sire families included 3, 8, 11, 12, and 14.

While these designations may have appeared valid and useful in Lowe's time, they appear less than reliable in hindsight. Lowe's running families include such successful modern sires as Buckpasser, Man o' War, Northern Dancer, Nureyev, \*Ribot, and Sadler's Wells, while sire families 3, 11, 12, and 14 are noticeably light of sire prowess.

Though there is little statistical analysis to substantiate claims made by critics of the Figure System, as was also the case with those who advocated its usefulness, most modern pedigree scholars allege that Lowe's classification is more a function of opportunity than overall class within each family. In other words, those families with the most English classic winners generally had more opportunities due to the number of live foals in each family.

### Lowe's intent

There is a certain amount of debate among Thoroughbred historians pertaining to Lowe's intent as he developed the Figure System. While it would seem logical that any painstaking task centered on classifying female families that had originated over a century prior would be put to use in some manner, there are anecdotal pieces of evidence that Lowe actually focused more on the merits of the individual, as opposed to anything related to the family numbers while working on behalf of paying clients.

Again, like much of the historical data surrounding Lowe's work, there is little in the way of conclusive evidence as to whether Lowe utilized the Figure System as a hobby or as a practical tool to benefit his clients. The fact remains that the Figure System was not even published until after Lowe's death by his friend Allison. In the end, it may have been Allison who decided whether to introduce Lowe's system as mere classification or a useful theory.

One of the more obvious downsides to the Figure System is the number of generations our current breeding stock finds itself from the origins of the root mares. The original 43 mares from Lowe's system are so far removed genetically from modern pedigrees that to insinuate some degree of impact is an enormous leap of logic, particularly when put up against more practical methods such as biomechanical evaluation.

Not unlike many modern breeding theories, Lowe's Figure System takes too many liberties with overgeneralizing. Though one family may include thousands of individuals, the Figure System attempts to generalize different aptitudes onto each family (for example, running family or sire family) without taking into account the equally infinite number of male influences introduced to the family by breeders from all over the world. Such a simplistic generalization can only lead

to a flawed and essentially invalid classification.

### DNA and Phil Bull

Much of the debate surrounding different breeding theories is highly subjective, and as a result, advocates have a difficult time presenting an argument that conclusively substantiates their point of view. But in the case of the Figure System, a hole exists in the theory large enough for a dozen English classic winners to walk through. Modern genetic testing has allowed researchers to map out the DNA from members of different families to determine whether they originated from a common ancestor, as purported by Lowe.

In 2002, Irish researcher Dr. Emmeline Hill published the results of a study that cast doubt on the accuracy of early Thoroughbred pedigrees, while simultaneously throwing doubt on the exclusivity of seven Lowe families: 1, 2, 7, 8, 16, 17,

and 22. With so many unknown pedigrees constituting Lowe's original 43 families (not a single root mare comes from a verified dam),

professional handicapper and founder of *Timeform*, compiled the pedigrees of what he believed to be the worst horses running in Eng-

land at the time. With a sample size of 430 (possibly a passive-aggressive jab at Lowe and Allison), Bull itemized them as a function of their Lowe family number and found similar dynamics to what Figure System proponents claimed to exist in the upper echelons of the population. That is to say, the largest contributors to this sad group of individuals were families one and two. Conversely, there was but one member of this sample that originated from Family 43.

While it may have been the early predecessor for nicking and an emphasis on the female family, the Figure System's usefulness today is questionable at best, particularly after the inaccuracies discovered by modern genetic research. So while there is a certain romance to studying theories from previous centuries, an objective evaluation of its usefulness in the modern era tells us that it is perhaps time to give the Lowe Figure System a final resting place in the history books. ✦

land at the time.

For the few remaining supporters of Lowe, the Hill study devastated their view on pedigree analysis. Lowe's system already had been under intense scrutiny and disregard prior to Hill's work, but the new findings may have been the final nail in the coffin. It is one thing for a system's methodology to be moderately controversial, but if the raw data within the system is inaccurate, it renders other discussions a waste of time.

Perhaps the only documented case of statistically analyzing the validity of Lowe's system came in the late 1930s when Phil Bull, a

professional handicapper and founder of *Timeform*, compiled the pedigrees of what he believed to be the worst horses running in Eng-


land at the time. With a sample size of 430 (possibly a passive-aggressive jab at Lowe and Allison), Bull itemized them as a function of their Lowe family number and found similar dynamics to what Figure System proponents claimed to exist in the upper echelons of the population. That is to say, the largest contributors to this sad group of individuals were families one and two. Conversely, there was but one member of this sample that originated from Family 43.

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Famous handicapper and publisher Phil Bull did his own "study" to discount the Bruce Lowe system

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