

Facts and thoughts about
CONFORMATION
GAIT
DURABILITY *and*
PERFORMANCE

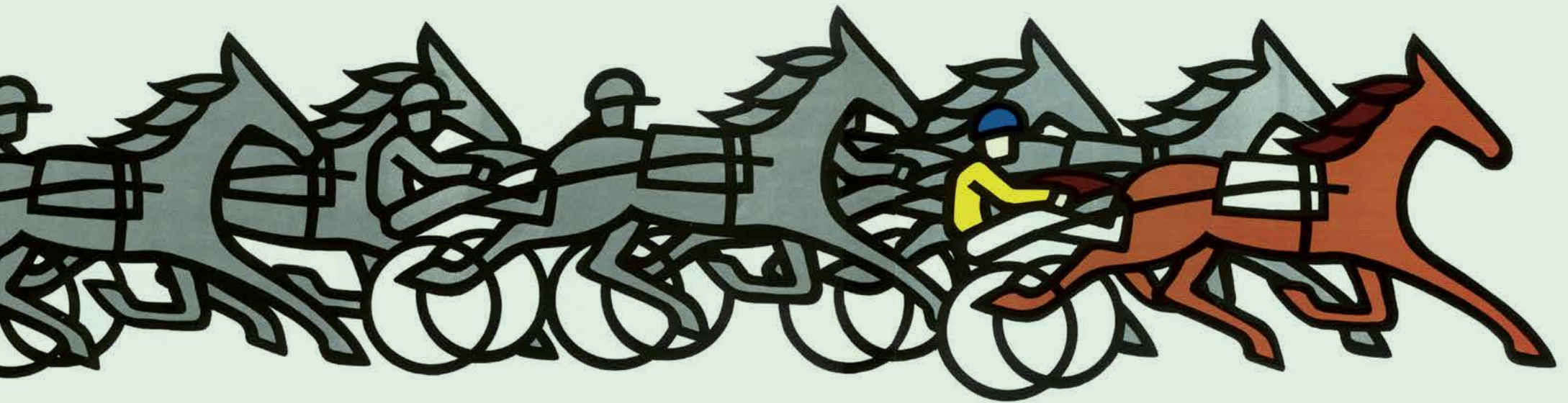
UET, Stockholm
28/9 2017



CONFORMATION & GAIT

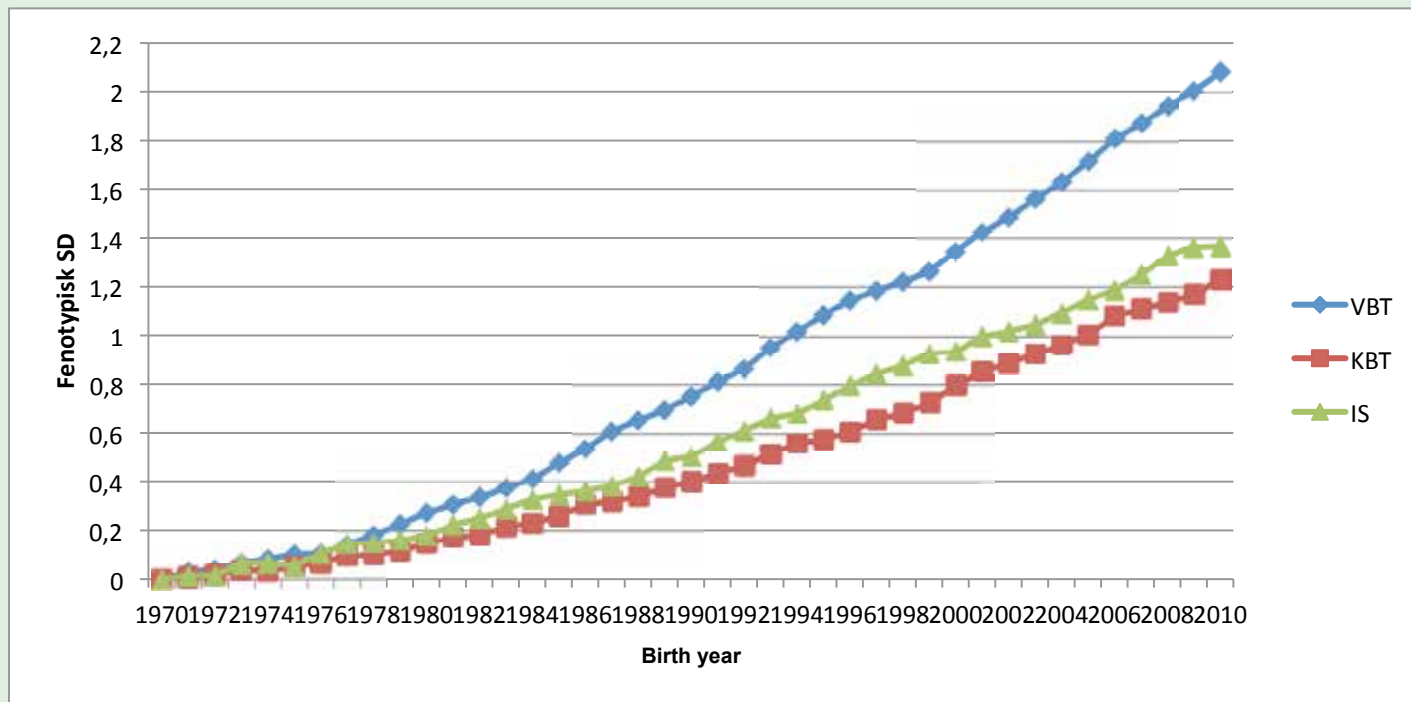
PERFORMANCE & DURABILITY

The level of performance is increasing with one length/year!



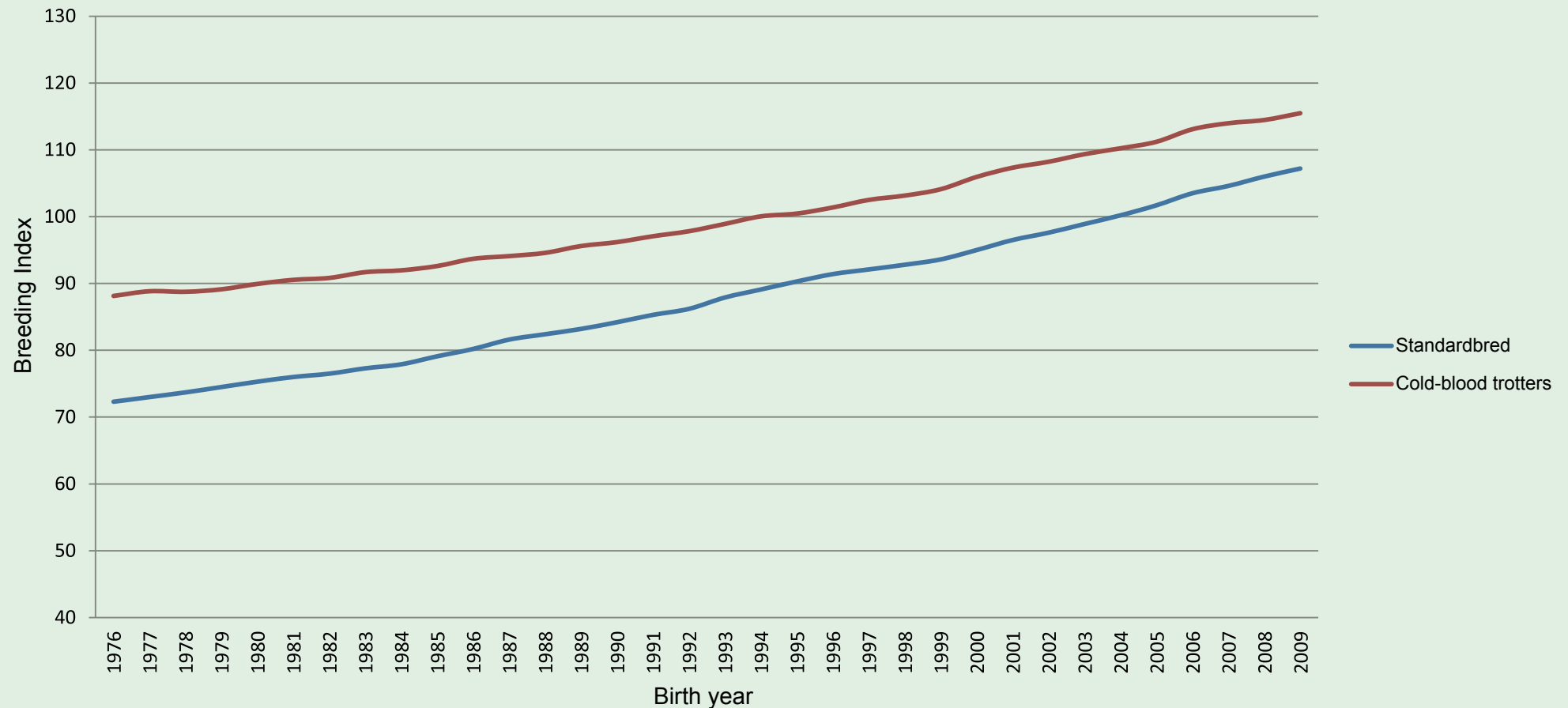
- The "average-horse" is 14/100 sec. faster/year.
- The BLUP-index increases with one unit/year.

The progress in breeding value 1970-2010

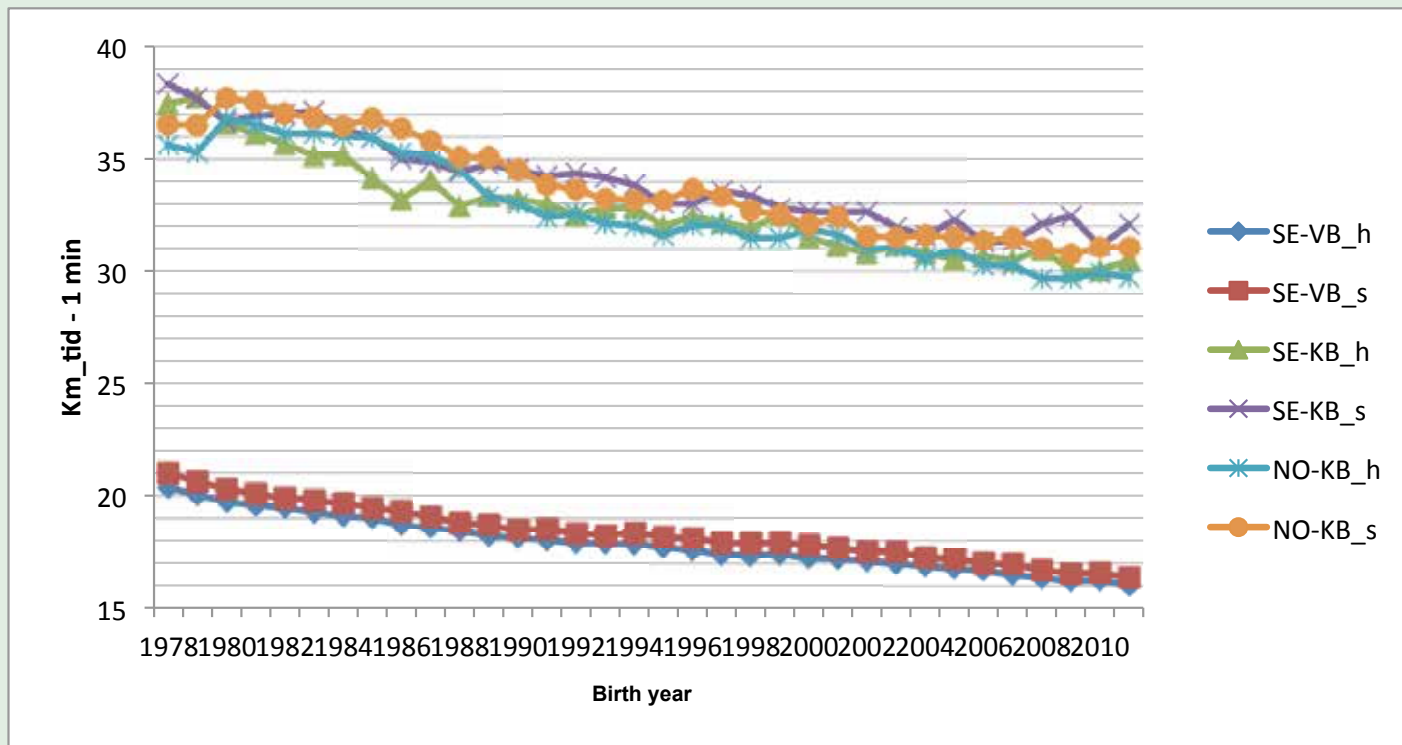


The progress in breeding value the last decade:
Standardbred: 7% (The greatest progress in any breed.)
"Cold-blood trotters": 4-5%

The development of the breeding index (BLUP)



The trend for best racing time for age classes 1978-2010



About the Swedish "Elite Stallions"

When did the racing career start? ●

Which season was most successful (earnings)? ★

How many seasons did they race? —

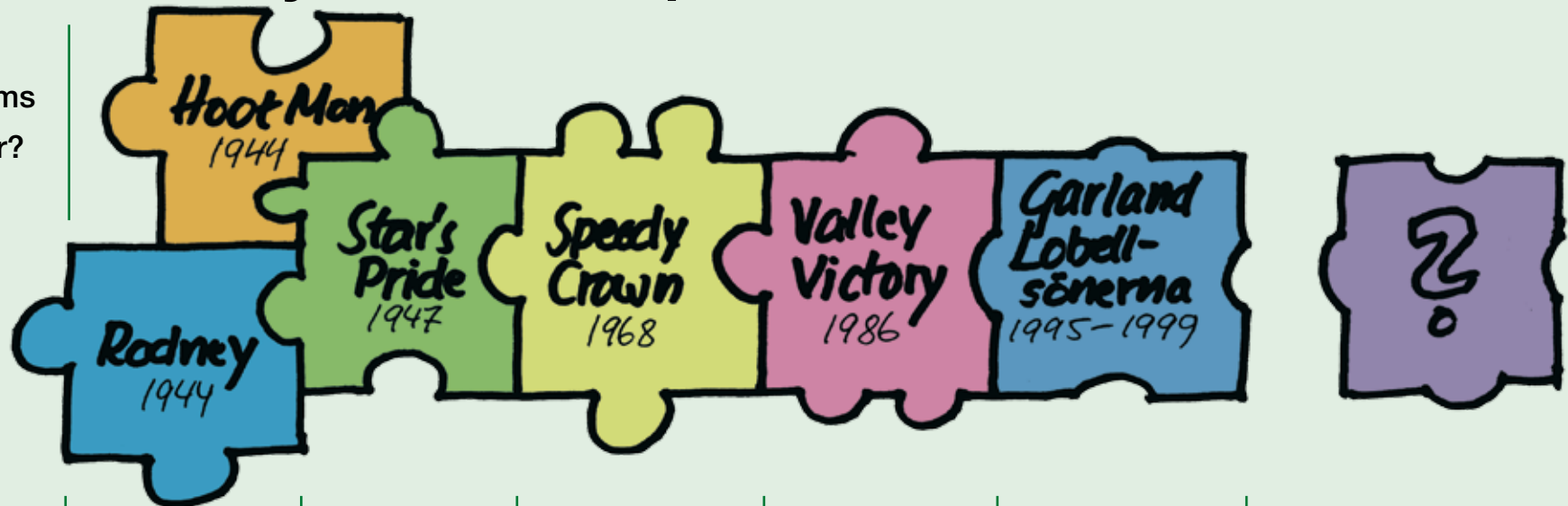
Stallion	Years breeding/no. sw. trotters	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 years	11 years
Tibur (1963)	1980-1990/910 offspring			●			★				
Speedy Spin (1967)	1973-1986/822 offspring	●	★								
Quick Pay (1973)	1978-1995/1117 offspring	●	★								
Pershing (1973)	1980-1998/1115 offspring	●				★					
Zoot Suit (1973)	1979-2003/1277 offspring	●	★								
Texas (1974)	1978-1999/526 offspring	●	★								
Lindy's Crown (1976)	1990-2001/1348 offspring		●		★						
Count's Pride (1978)	1980-2003/1404 offspring		●	★							
Smokin Yankee (1978)	1980-1998/927 offspring	●	★								
Crowntron (1979)	1985-1986/172 offspring	●	★								
Express Ride (1983)	1994-2004/345 offspring	●	★								
Sugarcane Hanover (1983)	1989-2009/1003 offspring	●	★								
Mack Lobell (1984)	1989-2006/398 offspring	●	★								
Spotlite Lobell (1984)	1988-2011/1743 offspring	●	★								
Supergill (1985)	1990-2010/259 offspring	●	★								
Super Arnie (1987)	1991-2013/1856 offspring	●	★								
Alf Palema (1989)	1993-2013/1336 offspring	●	★								
Pine Chip (1990)	1995-2016/891 offspring		●	★							
S.J.'s Photo (1990)	1996- /281 offspring	●				★					
Cocktail Jet (1990)	1996- /406 offspring		●			★					
Conway Hall (1995)	1999- /177 offspring	●	★								
Viking Kronos (1995)	1999-2014/484 offspring	●	★								
Muscles Yankee (1995)	1999- /264 offspring	●	★								
Varenne (1995)	2003- /239 offspring		●			★					
Credit Winner (1997)	2001- /311 offspring	●	★								
Scarlet Knight (1998)	2003- /676 offspring	●	★								
Love You (1999)	2003- /656 offspring	●				★					
Ready Cash (2005)	2009- /226 offspring	●					★				

Among 28 Elite Stallions, 22 started as 2-year-olds, and 19 had their most-winning earning season as 3-year-olds. Their total number of Swedish offspring of today: 21.199!

The dominance of the Matadors

– they have completed each other!

Hoof-
problems
Temper?



Rather heavy
Powerful gait
Ambitious

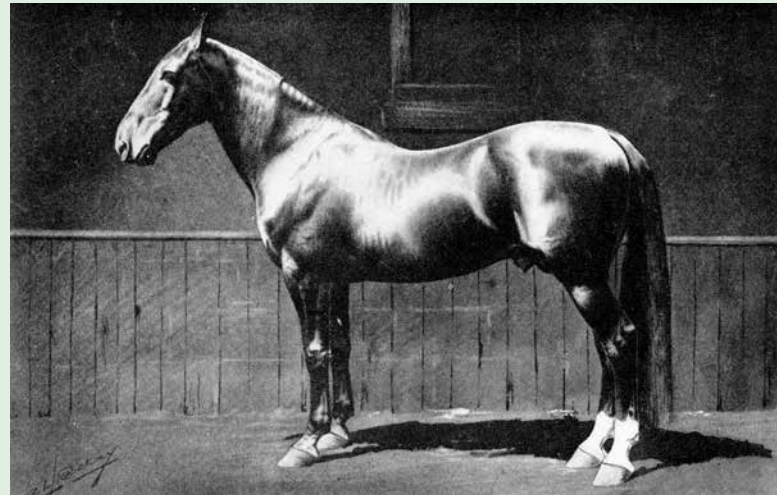
Compact
and well
muscled
Correct legs
Strong
transitions
Right
attitudes
Stamina

"Early Speed"
Uncompl-
icated temper
and gait
Wide chest
"good size"

Thorough-
bred-like
conformation
Early Speed
Long, elastic
pasterns –
"revolutio-
nized" the
gait

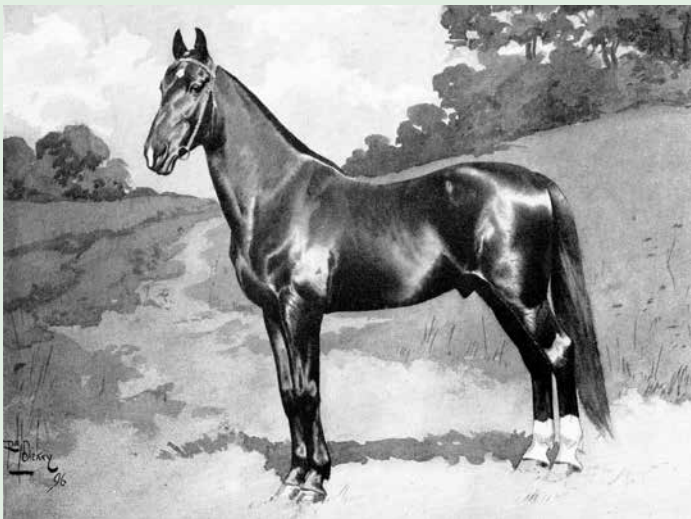
Tough and
ambitious
Racing
several
seasons
Partly new/
different
blood

What did the Standardbreds look like originally?



*Hambletonian 10,
born 1849*

His most important sons:



Happy Medium, born 1863



George Wilkes, born 1862



Electioneer, born 1868

What did the Standardbreds look like originally?

1418 *Elfte kapitlet.*

att de fackmän, hvilka af engelska och franska regeringen skickats till Amerika för att taga reda på huru det förhåller sig med den mycket omordade, outtömliga tillgången på dugliga och billiga remonter derstädes, vid sin hemkomst, tecknat en allt utom fördelaktig bild af Amerikas hästkarlar och hästtyper. (Se *Les Chevaux de l'Amérique du Nord* par le Baron Faverot de Kerbrech, Colonel du 23^e Régiment de Dragons, Paris 1882.)

Om den berömda snabbtravaren faller en bekant engelsk hästkännare, hvilken nyligen i Amerika tillryggalagt omkring 10,000 eng. mil blott för att studera landets hästkultur, i *The Field* följande omdöme: »Jag nödgas här förlåna uttryck åt min orubbliga öfvertygelse, att nutidens typiske snabbtravare är den mest obrukbare, fule best en skämd nationel smak kunnat frambringa — ett klumpigt hufvud, hjorthals, platta, hängande refben, lång rygg, uppdragna flanker, dåliga bogar, bakben som en hares, låg framtill och ej sällan jättstor — intet fattas för att åstadkomma en rent af afskräckande bild.»

Detta omdöme bekräftas till alla delar af baron Faverot de Kerbrech. Han skriver: »Sämst äro de travare, hos hvilka det engelska blodet under tidernas lopp blifvit för mycket utspäddt. Dessa hästar se ut som om man hade pressat dem emellan två plankor och dragit ut dem i alla riktningar. Framdelen af hufvudet är smal och böjd, ganaschen illa formad, halsen uppåt svängd, ryggen oproportionerligt lång och sänkt, refbensbildningen usel, njurtrakten bristfällig, kruppan jemförelsevis kort och underredet både kient och för högt i förhållande till bålen. Till på köpet sakna de muskler, och om än deras rörelser i allmänhet kunna kallas vackra, tyckas de ändock sakna kraft och spänstighet.»

Den mest framstående representanten af denna travareklass är *Saint Julien*, hvilken travat engelska milen på 2 m. 11½ s. Enligt baron Faverot de Kerbrech finnas tilltalande, emot den europeiske uppfödarens anspråk svarande hästtyper blott ibland de travare, hvilka »stå högt i blodet». Dylika uppfödas mest i Kentucky och Tennessee, på de kalkhaltiga *blue grass*.

”...the typical trotter of today is the most useless, ugly beast an embarrassed nation's taste could produce...”



St. Julien

”...nothing is missing to accomplish a most repulsing image...”

(*Les Chevaux de l'Amérique du Nord*, 1882)

HARTFORD RACES
CHARTER OAK PARK

A GOOD RACE, WELL WORTH.

AUGUST 27. 28. 29. 30. 1889

PREMIUMS \$36,000.00
INCLUDING THE
\$10,000.00 STAKE
FOR THE
WINNERS OF THE GRAND CIRCUS.

T. O. KING, Secretary.

What did the Standardbreds look like originally?

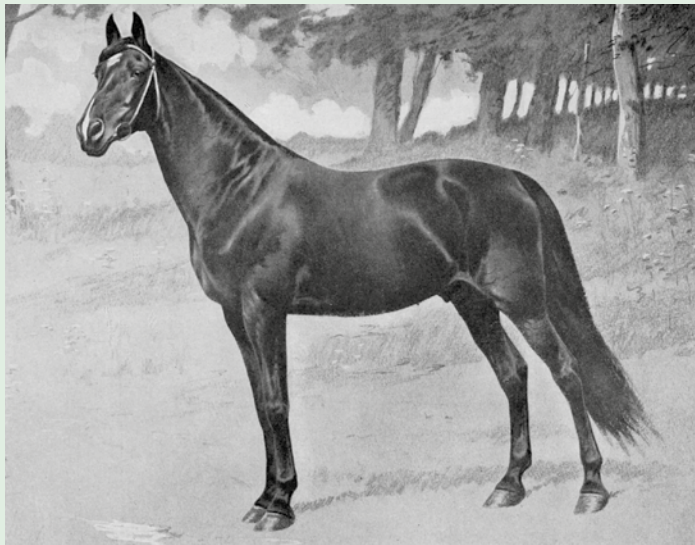
*Peter the Great,
born 1895
(grandson
of Happy
Medium)*



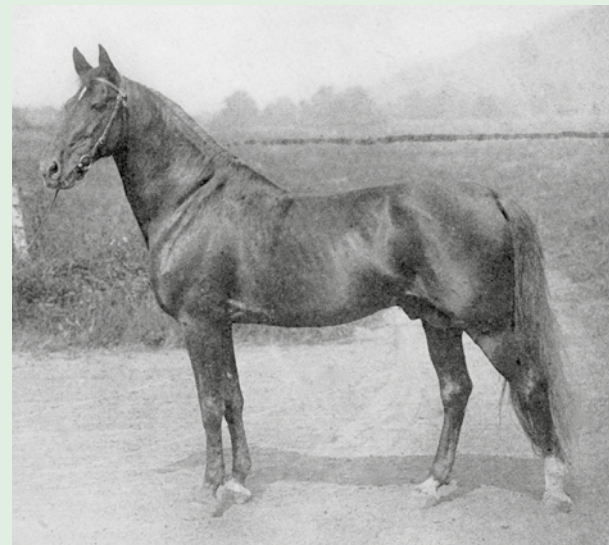
*Bulwark,
born 1933*



*Axtell,
born 1886*



*Axworthy,
born 1892*



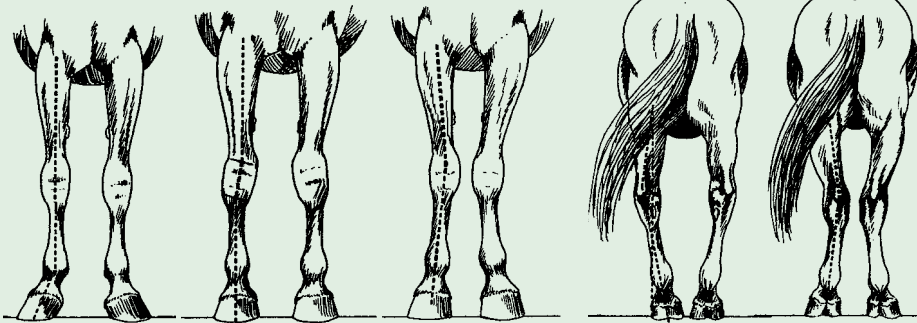
The Standardbred of the 80:s

"Conformation, performance and durability of the Swedish Standardbred"

Vet. med. dr. Lars-Erik Magnusson

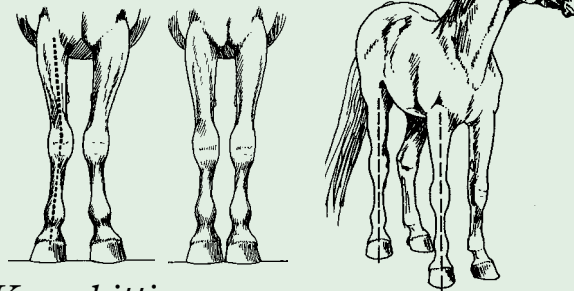
500 4-year-old Swedish Standardbred trotters were examined,
44 different body measurements were notified

Divergent limb- and toeaxis



Increasing numbers of galls in the joints

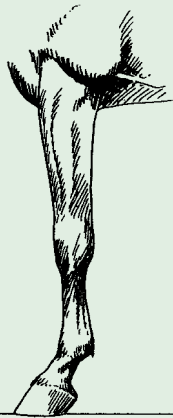
Knock-kneed, narrowed and splay-footed



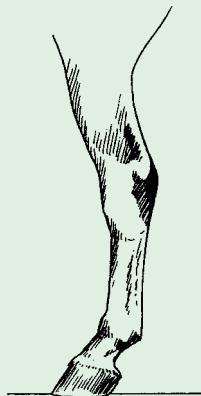
Knee-hitting

Pinched under front knee

4-5 bigger risk for injuries in the skin-deep flexor tendon

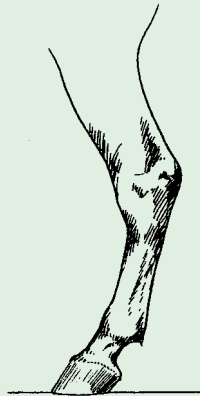


Straight hocks



Less symptoms or injuries in the hind legs

Sickle-hocked



More symptoms or injuries in the hind legs

"Rabbit-hocked"



Strong correlation to spavin

Big, heavy head



Negative correlation to performance

Summary of the investigation:

Performance

"The study shows that *there is a connection between conformation and performance.*"

"**5-9%** of the variety within the different performance traits could be explained by conformation."

"Several measures indicates a statistical significant connection between one or several of the performance traits. The investigation indicates that *the trotter should be slender, without a long and heavy head, have a big pastern, normal hoofs, and not pinched under the knee or the hock. Furthermore the limb-axis should be slightly rotated outwards and the shoulder angle should be wide.*"

Durability

"Many conformation details have shown correlations to different symptoms of injuries."

"The investigation shows that *there is a correlation between conformation and durability*, but a few deviations from an optimal conformation only explain just a few percent of the durability traits."

"**11%** of the variety in ortopedic durability could be explained by conformation deviations."

Modified conformation

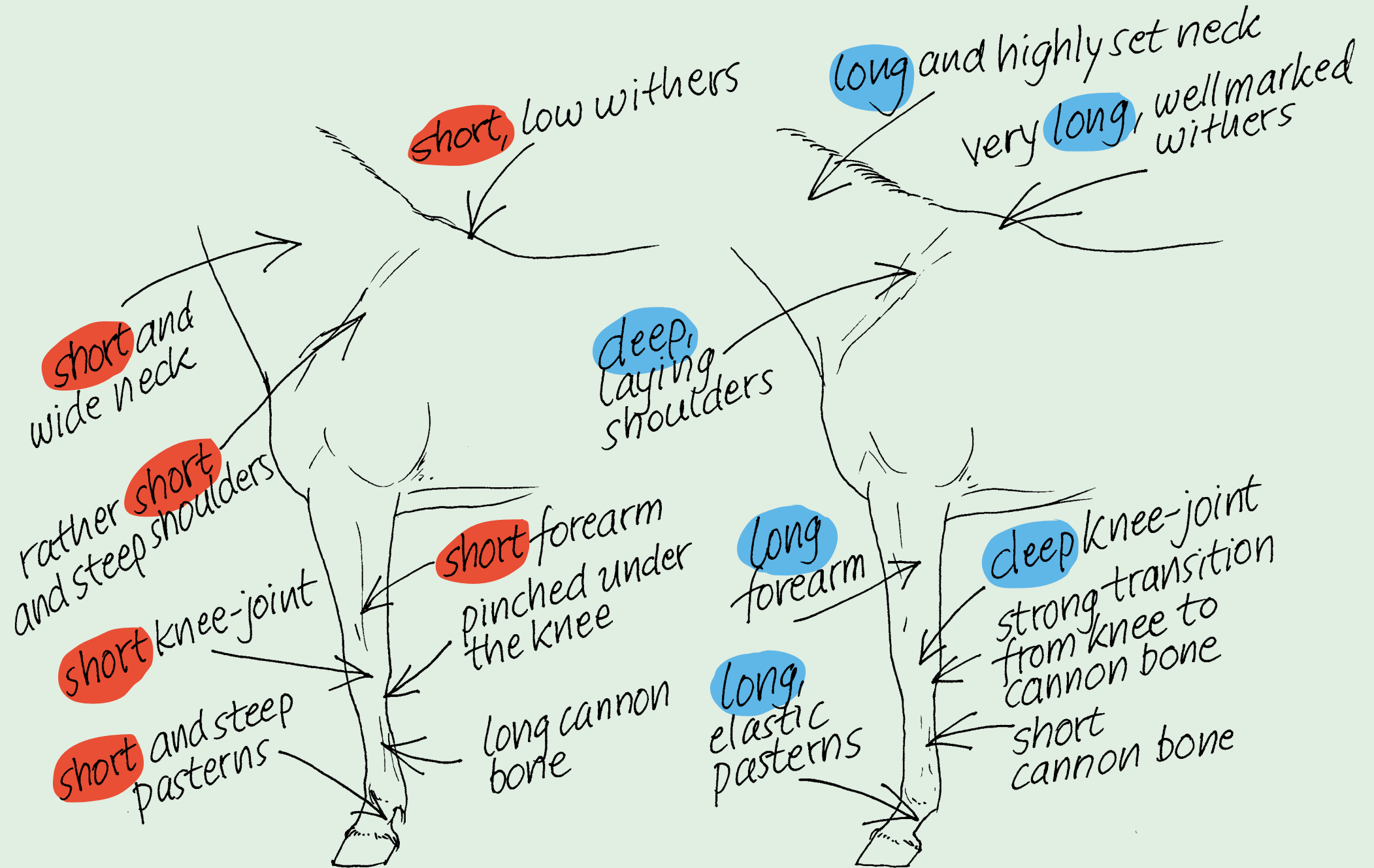


*Bulwark *1933*

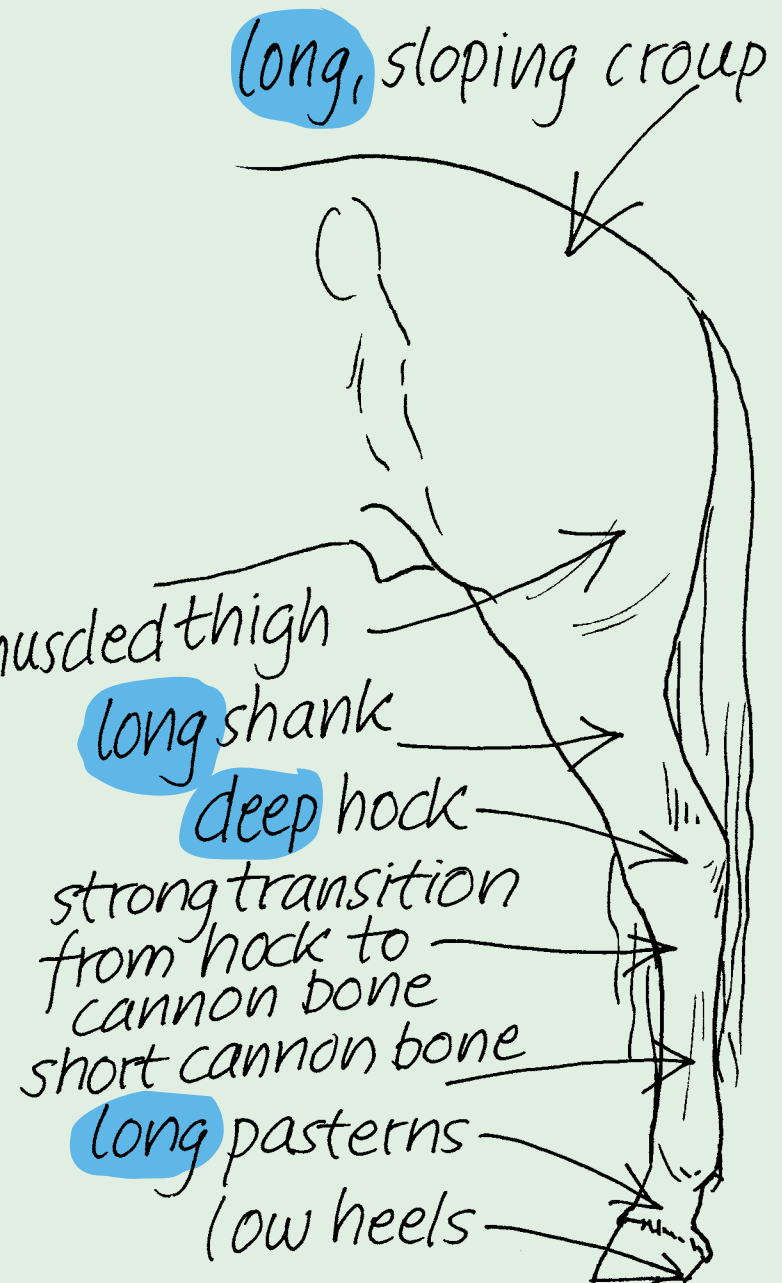
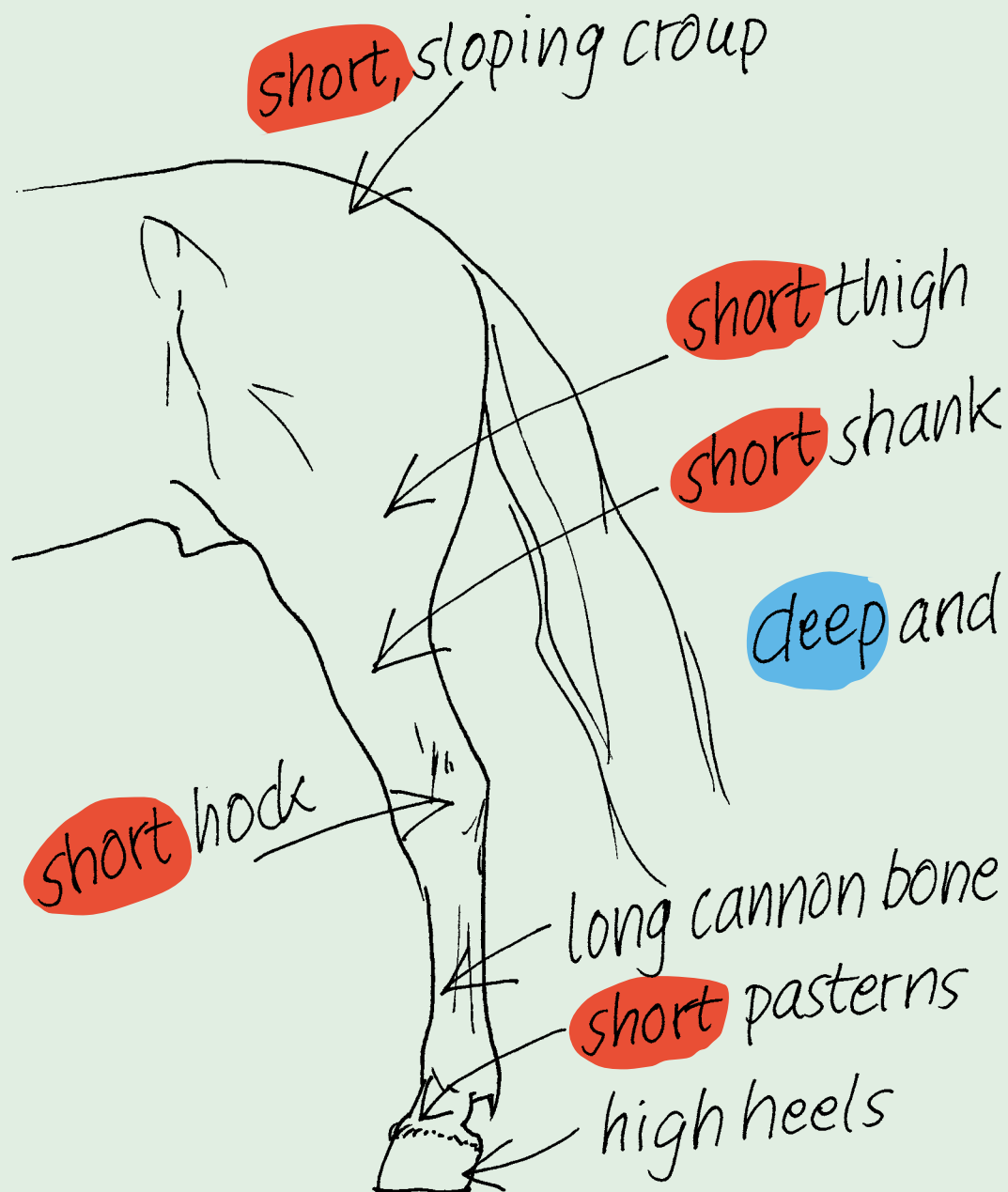


*Muscle Hill *2006*

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Will the American and French Trotter look like the Thoroughbred in the future?



Muscle Hill (US)



*Upper Case***



Jasmin de Flore (FR)
(only French Trotters for five generations)

Three young french top racehorses with "thoroughbred conformation"



*Ready Cash *2005
(Indy de Vive/Extrême Dream/Workaholic)*



*Bold Eagle *2011
(Ready Cash/Love You/Workaholic)*



*Tucson *2007
(Coktail Jet/Buvétier d'Aunou/Florestan)*

The gait has been radically modified



Nedworthy 1932

Codex 1955



Today:

- Effective gait
- "4-wheel-drive"
- Power-saving
- Elastic-rythmical-flowing gait
- Bigger proportion of "line gaited" horses
- Less injuries?

Muscle Hill 2009



Before:

- High knee movements
- Stompy, non-elastic gait
- Stiff shoulders
- Hard ground-hitting
- Power-consuming
- Non-effective gait
- Many "broad gaited" horses
- Leading to problems and injuries?

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*Muscle Hill (2) *1.10,6*

*His son, Southwind Frank (2) *1.09,9*



Is there a similar progress for the Cold-blooded trotter?



*Gildor *1944*



*Lannem Silje *2010*

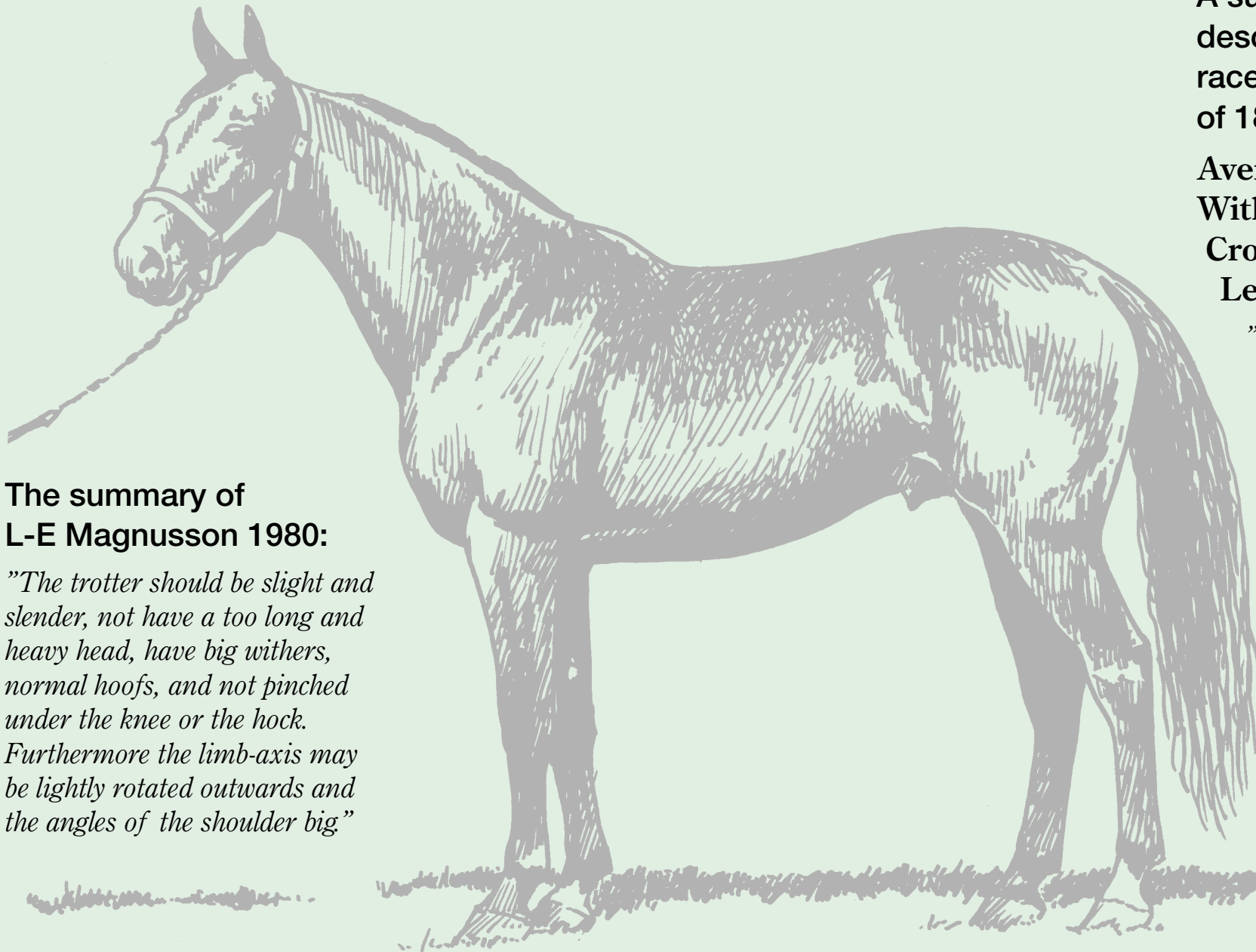
Results from a later study – most important findings

		Results for 186 stallions 2001:
Divergent limb- and toe-axis	Toe-out	16,7%
	Pigeon-toed	12,4%
	Divergent toe-axles	1,6%
	Parallel displacement	6,5%
Knock-kneed		14,5%
Narrow		0,5%
Splay-footed	Front	42,5%
	Back	8,6%
Pinched under the front knee		7,5%
Abnormal transitions		2,2%

		Results for 186 stallions 2001:
Pinched under the hock		2,7%
Sickle-hocked		1,6%
"Rabbit-hocked"		1,6%
Heavy, simple head		3,2%
Big, long head		4,8%

Large hock angle	10,8%
Strong transitions	37,1%
Small hock angle	22,0%

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The summary of L-E Magnusson 1980:

"The trotter should be slight and slender, not have a too long and heavy head, have big withers, normal hoofs, and not pinched under the knee or the hock. Furthermore the limb-axis may be lightly rotated outwards and the angles of the shoulder big."

A summary of conformation descriptions of top racehorses (investigation of 186 stallions) 2001:

Average dimensions:

Withers: 160 cm

Croup: 159 cm

Length: 162 cm

"Slight, elegant, harmonic and relatively long and deep body. Expressive head, well set neck, deep and sloping shoulders, well defined, long withers. Relatively long body, well-muscled, sloping and rather long croup. Slightly outward rotated front limb-axis with gracile cannon bones, all legs have strong transitions from knee/hock to cannon bones. The hocks are somewhat angled, the gait movements are mostly correct."