KENNEL UNION OF SOUTHERN AFRICA
KUSA BREED JUDGES LEARNING PROGRAMME

## STUDY GUIDE \#6: GENERAL

## ANATOMY, CONFORMATION \& MOVEMENT

## EXAMINATION CONTENT FOR LEVELS 1 \& 2

All rights reserved. No part of this booklet may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording or any information storage and retrieval system, without permission in writing from the Kennel Union of Southern Africa.

Edition September 2013
Written and illustrated by Joy McFarlane for
THE KENNEL UNION OF SOUTHERN AFRICA
P O BOX 2659
CAPE TOWN. 8000
PART ONE - STRUCTURAL BALANCE
FIRST IMPRESSIONS ..... 4
Type vs Style ..... 4
Silhouettes ..... 4
FORM AND FUNCTION ..... 6
STRUCTURAL BALANCE ..... 7
Size ..... 8
Substance ..... 9
Proportions ..... 10
Variations of hind structure ..... 12
Variations of front structure ..... 13
PART TWO - COAT AND SKIN ..... 15
Coat characteristics ..... 16
Coat textures ..... 17
Coat distribution ..... 18
Coat colours ..... 18
Coat patterns ..... 19
Coat markings ..... 20
SKIN ..... 21
PART THREE - CONFORMATION
HEAD AND NECK ..... 24
Head shapes ..... 25
Head planes ..... 26
Elements of the back skull ..... 26
Ears ..... 27
Eyes ..... 28
Eye rims ..... 28
Expression ..... 29
Elements of the foreface ..... 29
Nose ..... 30
Neck ..... 31
FOREQUARTERS ..... 32
Withers ..... 32
Shoulder ..... 32
Upperarm ..... 33
Foreleg ..... 33
Wrist ..... 33
Pastern ..... 33
Forefoot ..... 34
BODY ..... 35
Chest ..... 35
Abdomen ..... 36
Topline ..... 37
HINDQUARTERS ..... 38
Croup and rump ..... 38
Upper and lower thighs ..... 39
Hock and rear pasterns ..... 39
TAIL ..... 40
PART FOUR - ANATOMY
MUSCULAR ANATOMY ..... 42
SKELETAL ANATOMY ..... 44
Comparison of human and dog ..... 45
The skull ..... 46
Dentition ..... 47
The forequarters ..... 49
The spinal column ..... 51
The ribcage ..... 52
The hindquarters ..... 53
PART FIVE - ANGULATION
FIRST IMPRESSIONS ..... 54
FRONT ASSEMBLY ..... 58
Shoulder layback ..... 59
Return of upperarm ..... 60
Shoulder angle ..... 61
Shoulder placement ..... 63
Examples of shoulder assemblies ..... 64
HIND ASSEMBLY ..... 65
Pelvic angle ..... 65
Stifle joint ..... 67
Hock joint ..... 67
Examples of hind assemblies ..... 68
PART SIX - MOVEMENT
CENTRE OF GRAVITY ..... 70
HEAD CARRIAGE IN MOVEMENT ..... 71
NORMAL GAITS ..... 72
THE PACE ..... 72
THE TROT ..... 73
HOW TO EVALUATE MOVEMENT ..... 74
Front and rear views ..... 74
Examples of faulty movement ..... 78
Answers to quiz ..... 79
Acknowledgements ..... 80

## PART ONE:

## STRUCTURAL BALANCE

In Study Guide \#4: Judging Technique, we explored the five essentials of dog judging: type, balance, soundness, temperament, and condition. Good judges approach their assignments with these elements foremost in mind with the intent of finding and evaluating each of these elements in the exhibits they encounter. None of these elements should be viewed in isolation and none sit in opposition to the others - the concepts work together like bread and butter.

In this study guide, we delve deeper into what makes a dog what it is, but instead of diving directly to the points of anatomy that can frighten the more seasoned enthusiast, we start with what we see first - the total dog as it appears before us - then we peel away the layers, exploring each level in reasonable detail, with examples of the myriad variations that define the different breeds.

Regardless of various structural shapes and characteristics of different breeds, all members of Canis lupus familiaris (the dog) possess the same anatomical features. So, while there is much reference in this study guide to varying characteristics, the anatomical and conformational illustrations are of a generic dog, let's call it a "Westphalian Truffle Hound"!

## Type vs style

Let's begin with what you see first - the total dog with all its characteristics that, together, define its breed. This is what one calls type. Breed type includes every aspect that defines that breed - its character, silhouette, head, movement and coat, together with all its particular breed hallmarks. Breed type separates one breed from another; for example, an English Springer Spaniel’s type describes it as the tallest of all land Spaniels, symmetrically built and compact, having a liver and white or black and white coat, and moves in an easy, free manner. In the ring, however, you may find a selection of ESSs with excellent breed type, but of vastly different style - the American style and the English style - so different, in fact, that one wonders if they ought not to be declared different breeds! While these variations are very obvious, even to the novice, some variations in style may be very subtle, defining, for example, a particular kennel's preferred breeding style. So the breed type may be correct, but style may vary subtly or enormously. A good judge judges to the breed standard (ie. type), not to a particular style.

## Silhouette

Your first sight of the exhibits in the ring will be the entire picture - the all-important silhouette. It's not unusual that your winner will be found during your first impression - the subsequent examination will either prove or disprove this impression. It's not by accident that almost every breed standard begins with a description of the dog's general appearance. During study of the various breeds, a judge builds an experiential reference to the perfect silhouette - the sum of everything in all the correct proportions that makes the breed what it is. Every breed is governed by certain general dog terms, namely, height, length of body, length of leg and so forth. There are also common expressions such as "low on leg," "long in body," "racy," "cobby", and hundreds of other terms that judges must learn to use. In pursuit of correctness, it is imperative that one understands how these terms apply to any specific breed of dog. Understanding and building a 'mental library' of silhouettes takes considerable study, but it is this mental image that a good judge takes into the ring in an effort to find a match in the ring.

$$
\begin{aligned}
& \text { Mrnck }
\end{aligned}
$$

$$
\begin{aligned}
& \mathrm{HKMn}-\mathrm{M} \\
& \mathrm{nM} M \mathrm{Nm} \\
& \text { - - Mn }
\end{aligned}
$$

$$
\begin{aligned}
& \text { MnのMM品 }
\end{aligned}
$$

A breed's conformation, temperament and style of movement are influenced by its original function, which, in most cases, was to partner humans through hunting, retrieving, carting, guarding, protecting, herding, and many other functions.

Although dog jobs have changed or disappeared and modern humans value dogs more as companions than partners, form and function remain critical to the selection of a healthy, well-conformed dog that is physically able to meet expectations. For example, a Golden Retriever or English Springer Spaniel with poor shoulder structure may not only lack the stamina to hunt all day, he is unlikely to be able to jog, hike, jump, romp with the kids, or chase a ball for any length of time, particularly as he gets older. An Australian Shepherd or Pembroke Welsh Corgi that will never herd cattle still needs proper structure to compete in agility and obedience events; a Saluki or Greyhound that will never course after buck or hare must still have the proper front and rear angulation to gallop after the plastic bag on a lure-coursing field. Beyond the need to maintain the original purpose of a chosen breed, we are often in awe of the incredible way that dogs are far more than a sum of their parts.


The notion of "form following function" is a valid idea that can be tested by science. The testing of our dogs was done primarily by those who preceded us and the principles were based on performance, a sort of working science, in its way. When judging in the breed ring, we cling to the belief that the standards we are interpreting will guide us in finding those dogs that could best fulfill their original purpose. This appreciation of the dog as an animal, an athlete, a protector, an alarm, or simply a creature of great beauty should figure in the search for the perfect specimen.

In order for dogs to carry out their respective purpose - or appear to be able to do so - a dog must possess a specialised degree of structural balance. One of the biggest challenges of judging is acquiring the skill of evaluating this structural balance.

Balance exists when a dog appears as a symmetrical, harmonious and well-proportioned blend of all its parts...


Let's look at canine conformation and anatomy within the framework of a dog's structural balance, which is made up of its size, substance, stance and proportions. In this study guide, we discuss characteristics that apply to a majority of breeds, but not all breeds, so it is essential that this material is studied in conjunction with the respective breed standards.

For the sake of clarity, the term "structural balance" is used in this study guide to refer to how correct the dog's structure is and how closely it resembles its breed standard. This is a rather subjective task, and somewhat daunting because a dog's 'correctness' can be perceived differently by different people. This subjectivity revolves around how a judge prioritises virtues and faults.

## STRUCTURAL BALANCE <br> How close does the whole dog come to the breed standard?



To understand a dog, the student must analyse it - break it down into easier, more tangible features that are easier to evaluate as being correct or incorrect.

To judge a dog, the judge must synthesise it - bring all the elements together into a cohesive whole.


## 1. Size

Correct size is an important feature of structural balance. Size refers to a dog's height and weight, both or either of which are usually mentioned in the breed standards.

Height is always measured from the ground to the withers with a rigid measuring stick or measuring hoops while the dog stands on a firm surface.

The method of length measurement varies by breed so judges need to know how length is to be measured in each breed. Here are a few possible measuring points as mentioned in various breed standards:

- point of shoulder
- forechest
- chest
- breast
- breastbone
- sternum
- withers

point of buttocks
- rump
- pelvis
- rear projection
- hindquarters
- stern
- back of thigh
- root of tail

In most breeds, or where a measurement method is not specified, the most common way is to measure from the point of shoulder to the point of buttocks.

Note: In South Africa, no disqualifications are made on size infringements, regardless of the recommendations in various breed standards. However, a judge would not normally award an out-of-size dog unless its other qualities outweigh this fault.



## 2. Substance

Substance is synonymous with the heaviness of a dog's bone - not to be confused with fat! As related to the overall structure of the dog, a judge establishes the correct heaviness of bone in the foreleg, where it will be found that there are basically three basic longitudinal shapes of bone:

- flat (bladed) bone: weighs less and allows for greater speed, eg. Borzoi
- oval bone: balances the frame of the dog, eg. Pointer
- round bone: resists lateral contact and stress, eg. Shar Pei

Some judges believe that a well-muscled dog "has substance", but if it is well muscled and has insufficient bone, this would be an incorrect assessment. It is important for judges to know what level of substance is required in the breed standard.

## 3. Stance



The way a dog stands naturally, without being hard stacked or baited into position, is called its natural stance. Exhibitors are often experts at stacking their dogs in a pleasing four-square stance - possibly to disguise conformation weaknesses - so it is useful for judges to study sufficient dogs in natural stance to be able to understand true dog structure. When judging, you can request the handler to allow the dog to stand in a natural stance as it returns to you after an 'away-and-back' gaiting pattern. A dog standing on its own often presents a truer picture of its natural balance.

A dog that stands four-square disperses its weight correctly for its breed, over all four legs, which serve as columns of support.


To look for a correct four-square stance from the side, evaluate if the front legs are vertical and the rear pasterns are perpendicular to the ground.


In correct four-square stance, the bones in the front and rear legs will be aligned to provide a strong support structure.


- front and rear legs are almost parallel
- a straight or nearlystraight line can intersects all the angles of the front or hind assembly.

A straight column of bones provides support - the ribcage shape and depth are the key.

Of course, there are some exceptions to the rule some achondroplastic breeds, such the Dachshund and the Basset Hounds, etc. have a wrap-around front so that the chest is supported by the front legs.


## 4. Proportions

Proportions are comparisons between two or more features, for example, a dog's head to the rest of its body, or the ratio of foreface length to back skull length, etc. There are dozens of different proportions described in breed standards, but one of the most important with regard to a dog's structural balance is length versus height, in other words, the apparent squareness of a dog's structure.


Generally, breeds will fall into one of three categories regarding height proportions:


SQUARE
eg Old English Sheepdog


OFF-SQUARE
eg. Rhodesian Ridgeback


RECTANGULAR
eg. Basset Hound

While considering balance, our perception of squareness may be affected by factors such as leg length and coupling. See how the following examples affect the perception of height and length.


Another important concept of proportion subscribed in many breed standards is the leg length versus brisket depth. Many breed standards require the brisket to reach the elbow at the half-way mark of the total height of the dog.

leg length and brisket are each 50\% of the total height of the dog to the withers

In some breeds, the depth of brisket is discussed in terms of whether it should be above, level with, or below the elbow. In a Basset Hound, for example, the brisket should extend below the elbow, while in a Sighthound most briskets are considerably above the elbow to facilitate agility.


## Variations of hind structures

- cow hocks: as viewed from behind, cow hocks turn inwards, causing restricted action and, very often, the hocks can brush against each other when passing.
- bowed hocks: the opposite of cow hocks - the hocks turn outwards. This also indicates a weakness in hind structure and movement will be restricted, often appearing as a waddle.
- straight hocks: insufficient angle at the hock, often caused by a second thigh lacking length.
- sickle hocks: The contour of the hock and rear pastern simulates a sickle. Usually caused by an overangulated rear, the structure is weak and movement is uneven.

correct

cow hocks

bowed hocks

too narrow
over-angulated


## Variations of front structures

Depending on the specific breed standard, there are several types of fronts, some of which are desired, others are described as faults:

- bowed front: when viewed from the front, the forearms curve outwards from the elbows, then close inwards towards the pasterns - sometimes caused by genetic influence, sometimes caused by nutritional deficiencies or disease. This presentation is generally considered faulty, but is required in the Pekingese.
- crooked front: the forearms incline symmetrically inwards and may be slightly bowed from the elbows to the wrists so as to create a cradle-like support for the chest. It is present in some achondroplastic breeds such as the Basset Hound and Dachshund, where it is called the 'crook'.
- east-west front (French front: when the pasterns are incorrectly positioned, they may turn the feet outwards. This is very often a fault associated with a narrow front. Not to be confused with certain breeds where the feet are required to turn outwards slightly, eg. Saluki, Staffordshire Bull Terrier.
- fiddle front (Chippendale front, cabriole front): a front that resembles a fiddle shape - elbows rather wide, forearms sloping inwards, and pasterns and feet turning out.
- horseshoe front: where the forearms are further apart at the elbows than at the pasterns, which are perpendicular to the ground. While this may be a fault in most breeds, it is a requirement of the Bedlington Terrier.
- narrow front (pinched front): one in which the forearms are presented closer to each other than desirable. Usually a fault, especially in working breeds, but a requirement in some, such as the Borzoi and Saluki, which call for a moderately narrow front.
- normal front (gun barrel front, straight front): a true and straight front where the forearms, pasterns and feet are positioned vertically and parallel to each other.
- pigeon-toed front (toeing in): the pasterns and feet turn inwards towards the centre line. The opposite of an east-west front.
- wide front: the front assembly is built wider than normal, often associated with a barrel chest. Usually a fault, but a requirement in, for example, the Bulldog.


