

the GREAT *Strip-tease* SHOW, or understanding DANE coat colour

by JILL EVANS

This article is X-rated. Or as they say on TV, the subject matter is for mature audiences, and parental discretion is advised. It is also grossly oversimplified, so please will the experts in genetics bear with it and turn off the fog machines. What we're trying to do here is to point out, in a very basic way, how correctly marked fawns and brindles, blacks, blues, and harlequins are made to appear in Great Danes, and how incorrectly marked ones can also show up once in a while. Then, we hope, people will see why the Powers That Be have decreed that only certain colours should be bred to each other, and why it's so important that we have COLOUR-MARKED pedigrees several generations long to study, and (no offense) watch out for blacks!

Now for the X-rated part. To understand what happens in the reproduction of coat colour, we'll have to imagine that the lovers about to make a liaison are wearing clothes, and that in order to consummate their ardour, they are going to shed them in wild abandon and throw them in a heap, to be sorted out later among the offspring. (The analogy is getting a bit weak here, but what the heck, it's more fun than the old monk Mendel and his sweet peas.)

Back to the bedroom. To get the hang of those Dominants and Recessives we hear bandied about so much, let's consider the wardrobes of the lovers. To try to keep it simple, we're going to have to think in pairs. That is, we have to imagine a long black overcoat worn on top of a blue stretchy jump-suit on some of the future bed-mates, and a striped overcoat worn over a fawn jump-suit on others. And then picture a clean but rather ragged white thing like a lab-coat, full of big torn holes, which can fit over the whole costume, and is often fancied by those who go for Basic Black but like to spark it up some.

In all fairness to our geneticist friends, we must also note in passing that some of these pairs are made by different manufacturers, and that there are assorted bleaches, dyes, patterns, etc. that can influence or produce these articles of apparel, and we'll get to some of that later...much later.

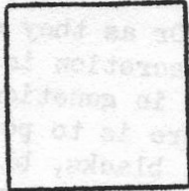
There is another thing we have to keep in mind, while we're on this introductory tack, and that is the sizes of those overcoats. The torn lab-coat is the biggest of all and fits over everything. Then comes the black overcoat. It's bigger than the striped one, so it's impossible to wear the striped coat on top of the black one, but the black one could be worn over the striped one. That, however, would be rather a hot situation, and not advisable. And of course, stretchy jump-suits can be worn on top of each other but simply can't be worn on top of overcoats. No way.

So what we've done is establish that the harlequin pattern is dominant when it's around, and that black is next in the dominance order. That is, black is dominant to brindle, and brindle is dominant to fawn. So of course black is dominant to fawn too. Fawn and blue are recessives--that is, being jump-suits, they can't be worn on top of overcoats. Keeping it simple, that is.

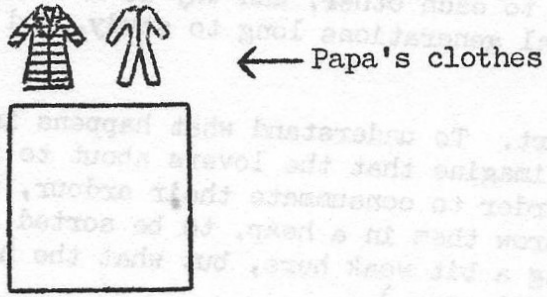
So let's get on with the nitty-gritty. We'll start with an ardent couple, a guy wearing a striped coat over a fawn jump-suit, and a young lady wearing two fawn jump-suits (sorry, forgot to tell you everybody wears at least two things. It's just the way it's done, don't argue.) There is a certain amount of billing and cooing, followed

by some heavy breathing, and then...off with the clothes and on with the revels. But, not being voyeurs, we lower our eyes and our attention is drawn to the heap of apparel on the floor. What have we? One striped overcoat and three fawn jumpsuits. There is a puff of smoke, unnoticed by the busy couple, and lo...enter Punnett the Prestidigitator. This fellow always shows up to sort out the clothes for the offspring. He is very magical and clever, but rather a square. In fact, he even invented a sorting machine something like a wizard's pentagram, which is the secret to this whole thing, and they went and called it the Punnett Square. Here's how it works.

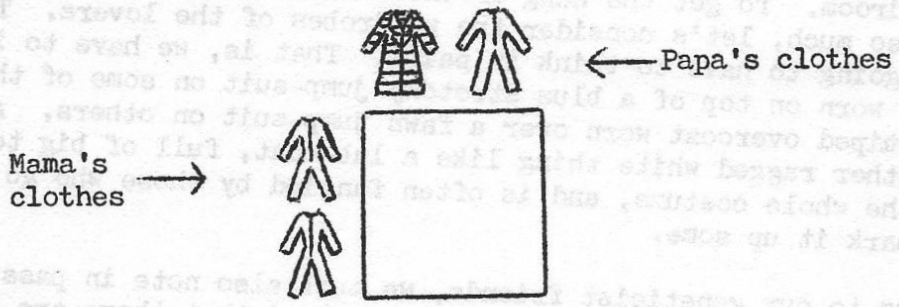
He draws a big square on the floor, like so:



Then he distributes the clothes that came from lover-boy on the top side:



and the other pair of clothes on the left side:

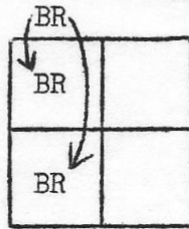


So I don't have to keep on drawing tiny little overcoats and jump-suits, we'll have to drop the picturesque and use code instead. (Keeping it simple, O Geneticist, we'll use the following designations and leave the A and E series aside for now, OK?). BR (in capitals because it's dominant) represents the striped overcoat, and f (in lower-case because it's recessive) represents the fawn jump-suit. And the next step is to make squares within the square by drawing lines between each article of clothing, so:

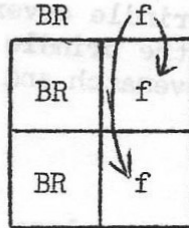
	BR	f
f		
f		

Now for the magical part. With the wave of a wand given him by the Genetic Genie, Punnett the Prestidigitator causes each item of clothing to double and move into the little squares in front of it--let's follow Papa's striped overcoat first, which divided into two and moved downward (see the next page).

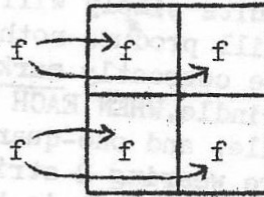
Papa's striped overcoat
divided and moved down:



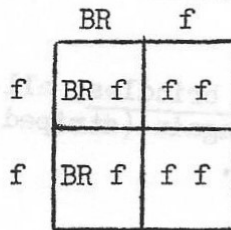
Then his fawn jumpsuit followed:



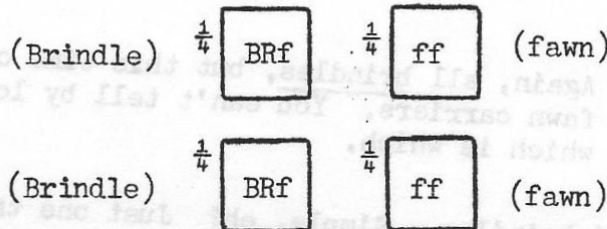
and Mama's fawn jumpsuits also divided and went to the little squares in front of them
(I've taken out Papa's contributions this time so you can see more clearly):



So when it's all put together it looks like this:



Then another wave of the wand, and everything sails off in different directions--Papa and Mama put on their original clothes, and the four little squares separate and after a while turn into puppies--a quarter of the total number coming from each square. So in this case half will be wearing striped overcoats on top of fawn jumpsuits, and half didn't get striped overcoats from their parents, so are wearing only fawn jumpsuits.



Punnett the Prestidigitator's Patented Practical Predictor, or the Punnett Square, can be used to predict the result of any combination, and on the next page are a couple of them for you to fill in, which could have come from the previous results...

1) fawn-to-fawn mating

	f	f
f		
f		



2) a brindle-to-brindle mating

	BR	f
BR		
f		

when each brindle covers up (or "carries") fawn, like the brindle offspring of the original lovematch and their Papa.

Did you get it right? Go to the head of the class if you got the answers below: #1, fawn-to-fawn, produces nothing but fawn. There's nothing else there. And it doesn't matter how many brindles are in the pedigree behind the fawns (i.e., it doesn't matter what the parents or grandparents etc. of the fawns were wearing in the way of overcoats)--fawn jumpsuits simply will not fit over striped overcoats, so a fawn is a fawn is a fawn, and will produce nothing but fawn when bred to another fawn. Whether or not they will be correctly marked is another matter, and we'll get to that later. #2, brindle-to-brindle, WHEN EACH IS A FAWN CARRIER, is more interesting. Three-quarters are brindle, and one-quarter fawn, BUT, one-quarter of the brindles are BR-BR, i.e., they are wearing 2 striped overcoats and NO fawn jumpsuit. So let's see what happens when one like that is bred to a fawn:

	BR	BR
f	BR f	BR f
f	BR f	BR f

Non-carrier brindle bred to fawn

See? All brindles, all of which are now fawn carriers again (striped overcoat covering fawn jumpsuit).

Now let's breed one of these BR-BR's (the geneticists call them homozygous, homo for two the same, like homosexual) to a BR-f (called heterozygous, or two different, like heterosexual) and see what we get:

	BR	BR
BR	BR BR	BR BR
f	BR f	BR f

Non-carrier brindle bred to carrier brindle

Again, all brindles, but this time only half are fawn carriers. You can't tell by looking at them which is which.

And that's about it for fawns and brindles. Simple, eh? Just one thing, though, When we predict that $\frac{1}{4}$ will be this and $\frac{1}{4}$ that, etc., this is based on an infinite number of puppies, or to use another analogy, an infinite number of rolls of the dice. In real life when it happens, and you have a litter of, say, four, you won't necessarily have (in the case of our original BR-f and f-f lovers) two brindles and two fawns, because the dice haven't been rolled enough times and all the possible combinations haven't come up. This just predicts the chances.

So basically, in summary, this is what happens in breeding fawns and brindles:

FAWN to FAWN produces only fawns because fawn is recessive, and an overcoat can't be worn over a jumpsuit, and fawn can't "carry" brindle. (But wait--there are masks.)

BRINDLE (carrying fawn) to FAWN, produces both brindles and fawns. The brindles produced are all carrying fawn. No problem. (Except again, masks and stripes. Later.)

BRINDLE to BRINDLE, when both are fawn carriers, produces brindle and fawn, but mostly brindle, and some of the brindles will not be fawn carriers so when they are bred to fawns in the future they will only produce brindles. This is one reason most people don't usually do brindle-to-brindle breeding--they like to get fawns in their future litters, but might keep a bitch or dog who was one of those homosexual--oops, I mean homozygous BR-BR's which will NEVER produce a fawn under any circumstances. Got it? If not, back to the Punnett Squares.

Fanciers of the BLACK and BLUE family of Danes will, if they have got this far, probably be relieved to know that their thing works exactly the same way, basically. Black is an overcoat (dominant) and blue is a jumpsuit (recessive). Simple? Well, I hate to tell you, it's not quite that simple, and I'll get to that in a minute.

HARLEQUIN people are just going to have to be patient. That holey white lab-coat of theirs complicates matters and can cover a multitude of things besides their own exclusive black, as well as sometimes becoming a tattletale grey, or maybe having a duplicate in grey under it, plus perhaps other less ragged cut-out suits too, and the mind boggles. Nobody has quite fathomed the harlequin striptease yet, although a few of the layers have come to light. We'll get to it later.

But back to BLACKS and BLUES. (And you fawn-and-brindle people, stick around----you have black masks and stripes, don't you?)

Punnett the Prestidigitator's magical Square works the same way exactly for blacks and blues. But there are a couple of complications. First, the blue colour is really not a separate colour from black, the way fawn is. (Fawn and striped clothes are in a different department). Blue and fawn are both jumpsuits and recessive, but being in different departments, they are equally recessive, sort of, and this is getting hard to explain. So please be patient--you'll see (I hope). Blue is really a dilution of black, as if someone had left a black jumpsuit sitting in a tub of bleach, which turned it a steel blue colour, more or less. So the code letters used for the Square in this family are D for Dense (black, and capitals because it's dominant) and d for dilute (blue, and lower-case because it's recessive). The reason we don't use B for Black and b for blue is that there's another department where those letters are used--pretty rare in Danes (although it does exist) but common in other breeds. This is where B is for Black, all right, but b is for brown, or liver, or chocolate, or whatever you want to call it--a different brand of overcoat and jumpsuit. So for black and blue we have to stick to D and d, and think of Dense and dilute for now.

Another complication about blacks and blues is that as we mentioned before, the black overcoat is the largest size of them all (except the ragged lab-coat) and fits over not only blue jumpsuits, but striped overcoats and fawn jumpsuits as well, and nobody can see what is hidden underneath the big black job. (Black-to-fawn-or-brindle has an optical illusion connected with it which makes a lot of people see red. And there is a reason for that, as you'll see later.)

So under the big black coat can lurk the works, and in other words, blacks can be carriers of brindle, fawn, blue, and even chocolate, and they will all look just as black that is black all the way through (when they're not shedding or left out in the sun, anyway.) THIS IS DREADFULLY IMPORTANT.

Now, fawn-and-brindle people, we come to the colour of your masks and the colour of your stripes. Although they are always supposed to be black as you know, genetically speaking they don't have to be, which is why we have been referring to a striped overcoat, not a brindle one. Those masks and stripes could be blue, or even chocolate, sad to say. Let's play Punnett Square again, this time for several generations in sequence of BLACK and BLUE, otherwise known as DENSE and DILUTE, or D and d.

1st generation--Black and blue (here the black is not a carrier of blue)

		D	D	(pure black Papa)
(blue Mama)	d	Dd	Dd	
	d	Dd	Dd	

= all black offspring, all of them carrying blue. Now you decide you want to stick to black x black breeding. We then breed two like that together:

2nd generation--Black x Black (both are carrying blue)

		D	d	(black Papa, carrying blue)
(black Mama, carrying blue)	D	DD	Dd	
	d	Dd	dd	

= 3/4 black, 1/4 blue. (dd is blue)
Of the blacks, 1/4 are not blue carriers, but you can't tell which by looking at them. You want to keep breeding black to black, and you choose two to continue with, not knowing which is a carrier:

3rd generation--Black x Black (you don't know it, but one of them carries blue)

		D	D	(black Papa from above, not a carrier)
(black Mama, carrier)	D	DD	DD	
	d	Dd	Dd	

= all black, and you think you've got it made. But 1/2 are carriers of blue, which you can't see. You choose two more blacks to breed together:

4th generation--Black x Black (you happened to pick the same combination as above in the 3rd generation, and again had all black pups, so now you REALLY think you've got it made). This sort of thing can go on indefinitely, as you can see, but then...

5th generation--Black x Black (still can't tell which are carriers, but this time your luck ran out and both parents happen to be)

		D	d	(black Papa from above, this time a carrier)
(black Mama, carrier too)	D	DD	Dd	
	d	Dd	dd	

= Heavens! 4 generations solid black to black breeding, and here's a blue!

This can happen in solid black and blue dogs, and blue breeders are happy when it does, BUT---IT CAN ALSO HAPPEN TO THE BLACK MASKS AND STRIPES ON FAWN AND BRINDLE DOGS, which is why their breeders must watch out for blacks in the pedigree even when they are many generations back, and find out what's behind them!

And then what happens if (horrors!) a solid blue is bred to a fawn with a black mask? Fawn and blue are both recessives, aren't they? So what on earth do we get????? We'll have to disrobe them to find out. First, fawn-with-black-mask is a pattern, really. Fawn is fawn, OK, a recessive, a jumpsuit, and can't be covering anything up. But the black mask! Aha! That's black, and it could be covering up blue. (Masks aren't made in stripes, so forget that). But let's say in this case it's not covering anything up--it's DD, not Dd. Now for the solid-coloured dog, the blue. That's a recessive too, like fawn. It's dd. And this particular blue comes from a long line of blues, with not a single black to hide fawn or brindle underwear.

So what do we get? We seem to have two piles of recessive jumpsuits--ff for fawn and dd for blue. You'll never guess what Punnett produces. All resulting puppies in this case are SOLID BLACK!!!!!! How does that grab you? And you thought you were beginning to understand this, didn't you? Don't worry, you are. There are just a couple more little details. That black mask on the fawn was DD, remember? And in this case because of the blue's lack of underwear (believe me) another rule applies--that solid colour covers a pattern. So voilà! Abracadabra, the DD of that black mask finds the dd of the blue dog and covers it up, and the Solid of the solid blue covers up the pattern of the fawn-with-mask. Presto change-o, solid black dogs. (Brindle is a pattern too, of course, so the same thing would apply.)

Supposing the fawn-with-black-mask were hiding a li'l ol' d, though, and the mask were Dd instead of DD as above? Then bred to the same blue as above, half the pups would be solid black, and half would be solid blue.

But oh my goodness, what lurks beneath those new black coats? Blue, and fawns-with-masks-either-black-or-blue. It doesn't take much imagination, does it, to switch those wardrobes around a bit and predict future generations of blacks carrying fawn, blues carrying fawn (yes, they can, you see--solid-over-pattern), fawns with blue masks, and so on, if such carriers were ever bred, perish the thought. And remember from the last batch of Punnett Squares that those recessives can be carried along generation after generation with nobody suspecting until suddenly they recombine to provide a big surprise in somebody's whelping box.

Let's peek, now, at how from a breeding of black to black you can get blacks, blues, fawns, and even brindles. This time we have to go to a bordello to see, where the madam is not too fussy about the backgrounds of the customers or the girls. Here we have a floozy in a long black dressing gown covering a slinky fawn jumpsuit and a teeny-weeny blue bikini. Enter the customer, scion of a not-so-noble family, wearing his big black overcoat. Under this there's another coat (weird, eh?) given him by his grandfather--this one is striped. Then comes a fawn jumpsuit inherited from a great-grandmother, and for undies he has blue shorts which are an heirloom from another branch of his family and have been passed on for generations.

These two black-clad types take a shine to each other and off they go upstairs to the Perfumed Garden. Mr. Punnett awaits them, and while they are occupied with their business (curiously, in such situations it's the girl that gets the stud fee) he performs his legerdemain, using a much bigger square to accommodate the assorted garments, undies, patterns, and solids, and ultimately dividing it into a checkerboard of 16 little squares. This time his magic is much more complicated and involves that A and E series which I'm not going to explain now, so you'll have to take my word for the results (I worked them out). Of the 16 possibilities, 8 squares are blacks, 4 are blues, 2 are fawns, and 2 are brindles. All of them look perfectly normal and acceptable to the Great Dane Standard. But the blacks and blues are carrying a mess

of stuff (only 1 black square is trouble-free), and half the fawns and half the brindles are carrying the blue factor.

So let's go a generation further. If one of those normal-looking brindles which was a blue carrier were bred to one of the normal-looking fawns which was also a blue carrier (see? nice fawn-to-brindle breeding), Punnett's Patented Predictor, Paranormal Model, would come up with the following: out of the 16 possibilities there would be 8 fawn squares and 8 brindles, BUT 4 each of the fawns and brindles, although they look normal, would be blue carriers; and 2 squares-full of the brindles would have BLUE STRIPES AND MASKS, while 2 squares of fawns would be BLUE-MASKED. Only 2 squares each of the fawns and brindles would really BE normal. See how fast it spreads, like VD! Half those puppies look perfectly normal and yet are carriers, ready to go again and produce more blue masks and blue stripes the next time around. (You ain't seen nuthin yet--wait till we get to harls!)

It should be mentioned at this point that when Danes were first being seriously developed about a hundred years ago, people hadn't a clue about such matters, and bred all sorts of colours to each other willy-nilly. Recessives spread like mad, unbeknownst to all, and being so persistent they still pop up even nowadays after generations of trying to purify the colour families. But now that we know what happened and what can happen, we can at least avoid adding to the confusion, and keep those dd's and ff's and such where they belong. But we MUST study colour-marked pedigrees to do it, and if possible find out if there have been any recent unmentionables swept under the bed!

This is why the Dane Clubs, confronted with black-clad types like the ones in the bordello with all those other shades underneath, shudder, cry "Kinky!" and raid the joint, demanding a clean-up.

We really must talk about the chocolate thing again, too. This was the B for Black and b for brown. It works the same as the other dominants and recessives, but it can also be influenced by the D for Dense and d for dilute. To see what colours we're talking about, perhaps it's easiest to think of Dobermans, forgetting about their tan markings and visualizing the main part of their coats. We have all seen the blacks and the "reds". Well, the "reds" are brown (bb). There are also blue Dobes, (dd). And rarely, there are "Isabellas", or "fawns", but they are not the golden-fawn of Danes, but a pinky-beige which is really a dilute brown (bb and dd together). By the way, you can tell these bb's and dd's by the colour of the nose. Browns (chocolates, livers, all the same thing) have brown noses, and blues have blue ones really, although they are usually very dark and are just slightly diluted black, in Danes anyway.

In case you think this brown business has nothing to do with us, think again. There are such things as chocolate Danes, solid-coloured or otherwise. A "chocolate brindle" Dane bitch, called Butterscotch, was even shown, in California in 1971. She was champion-sired and of very good pedigree. A colour photograph of her appeared in the July-August 1971 issue of the magazine Great Dane International, and shows her milk-chocolate coloured stripes and mask, probably a result of both bb and dd. Any question of this becoming an accepted colour was settled when the then-President of the Great Dane Club of America was judging in that area, and excused her. Since then the revised U.S. Dane Standard has clarified the point, and disqualifies any fawn or brindle whose markings are not BLACK. The thing about Butterscotch is that her pedigree is 10 generations of pure, correctly marked, fawn-to-brindle breeding. Because she must be the result of a combination of recessives, both her eminent parents, who looked normal, must have been carriers, after all that time. And if you don't see why by now, go directly to Punnett, do not pass Go, do not collect \$200.

And then there are HARLEQUINS. Remember the white but ragged lab-coat coverall, full of big holes? This is the one worn on top of the black overcoat, in most cases. But of course now you know--it could also be worn over any of the other colours; blue,

fawn, brindle, even chocolate. In fact, born back in 1904, just before the Dane Standard was written to define the 5 permissible colours we still have, there was a beautifully put-together dog who became an English champion, Ch. Orus of Lockerbie. His colour was brindle-harlequin. There is a photo of him in an old book, showing the brindle patches on a white background. His sire was a harlequin out of harlequins (but it doesn't say what colour their patches were) and his dam was a brindle out of brindles (but it doesn't say what colour her stripes were!) Ch. Orus was used for breeding, and so was his brindle sister, Pandora, who is behind some top English dogs.

I'm sorry to say nobody quite understands harlequins. Perhaps that spanking-white holey lab-coat is worn over another holey coat which is a dapple, usually mouse-grey and black, known to us all as Merle, because there are such things as white Danes with merle patches, and well-marked harls often have merle places on them; as well as solid merles. That merle coat must have some inner pockets full of nasty surprises, because if two merles are bred together, disaster strikes (in other breeds, too.) The offspring are commonly (if alive) all-white (albino), deaf and/or blind, or with tiny eyes, and often sterile as well, and constitutionally weak.

Some experts think, on the other hand, that there is something that works like cleaning fluid on the blotchy merle coat to produce the clear white of the harlequin, but others argue that it's an interplay of the holey lab-coat and the white-tie-and-tails effect of the "Boston-marked" black worn underneath. This is a manifestation of what is otherwise known as the "piebald" factor, producing white spotting of various sizes on other colours--like the permissible small white spots on the chests of the other shades of Dane. Then there are undergarments like Boston-marked merles, and so on. into the night.

The thing is, two beautiful, sparkling, perfectly-marked harlequins of perfectly pure breeding can toss their clothes into the pile and poor old Punnett's magic wand may come up with nothing but merles, Bostons, solid blacks, and albinos, and not a single true harlequin in the lot! Where did that white lab-coat with the big torn holes go?

Yes, there can also be solid blacks from harlequin-to-harlequin breeding. Here the big black overcoat is often hiding the Boston white-tie-and-tails pattern, or other patterns of white, although the solid blacks look just the same as the ones used in blue and black breeding. So obviously, the harlequin-bred blacks should not get any ideas about pretty blue girls, because who needs blues with white collars and blazes on the face and all that? Harlequin-bred blacks can, like the others, can also be covering up all that other stuff like blue, brindle, fawn, chocolate, or what have you, with or without white patterns on them. But nowadays GOOD harlequin breeders have stuck to harl x harl, or at least black-and-white, for generations, so it's unusual to have the other colours appear. Of course, there are still some houses of ill repute where anything goes, and harlequins pair up with fawns, brindles, blues, and such, producing a veritable rainbow of progeny and sending the situation back to the 1880's, when THIS was the description of Dane colouration:

"The recognised colours are, the various shades of Grey (commonly called Blue), Red, Black, or pure White, or WITH PATCHES OF THE BEFOREMENTIONED COLOURS. (my capitals.)

"These colours are sometimes accompanied with markings of a darker tint about the eyes and muzzle, and with a line of the same tint (called a trace) along the course of the spine.

"The above ground colours also appear in Brindles, and are also the ground colours of the mottled specimens.

"The mottled specimens have irregular patches, or clouds, upon the above-named ground colours; in some instances the clouds or markings being of two or more tints...

"The whole-coloured reddish-yellow, with black muzzle and ears, is the colour least cared for, as it is indicative of the Mastiff cross." (Howzat again????)

Now really! We don't want to go back to that muddle, do we? Well, it could happen if people didn't pay attention to colour-marked pedigrees, recognize that there are different kinds of blacks, and stick to the families developed over the years which will give us the five glorious colours we have now. And there's still work to do in perfecting them.

For instance, back there, we saw mention of "the Mastiff cross", and this can account for the various shades of fawn we see, and the different base-coat colours in brindles. Mastiff fawns range from "apricot" to "silver". The "silver" in that breed is the result of a different kind of bleach working on the fawn jumpsuit, but not affecting black at all. And in Danes we sometimes see very pale fawns with good black masks, and pale-based brindles with good black stripes. Our standard says "the deep golden yellow colour must always be given the preference." Then as we know, the other "bleach" which can give blue masks and stripes could also be in the vat, and the combination would give a very washed-out Dane indeed. And it seems the two bleaches can work independently, because we have actually seen a rich red-fawn base coat on a brindle with blue stripes, mask, and nose.

Then, too, there are real rarities which appear sometimes in other than fawn-and-brindles. Recently a blue with tan points like a blue Doberman was seen, and it had regular blue parents, brothers and sisters, apparently. Tales are told of blacks with fawn patches and other weirdos. Where did they come from? Mutations? Maybe. Mystery, for sure.

Nobody seems to know much, either, about sooty fawns--the ones with black chests, and/or black on top of the head, and/or dark, muddy coats all over. And the ones with clear colour on the body and then, surprisingly, a whole lot of black all the way up the tail. Some people have suggested that this is connected with extensive black masks and black ears, and a kind of spillover onto those other areas. But there are also clear golden-apricot Danes with equally big black masks and dark ears, and no spillover anywhere. And the Mastiff standard demands a big black mask and ears, and you don't see too many of that breed with dirty colour and black on the chest. So where does that leave us? With the geneticists rolling out those fog machines, that's where, so let's quit before we get lost!

For those who would like to find out just how oversimplified this has been, you'll get the truth, the whole truth, and nothing but the truth in a book called "The Inheritance of Coat Color in Dogs", by Dr. Clarence C. Little. It's available from the Howell Book House, 730 Fifth Avenue, New York, N.Y. 10019--price in December 1976 was \$U.S. 10.95. Also, in our Club library is a copy of our November 1973 newsletter, which contains a pretty thorough yet concise article on Dane coat colour genetics by Jane Chopson, a Dane breeder in California. And the early issues of Great Dane International, back in 1970 and '71, had a series of most comprehensive articles on genetics leading up to the complicated matter of coat colour, by Dr. Frances Greer. So there has been plenty of research and documentation on the subject.....

Now what about those black masks that turn grey prematurely, while others don't....??

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AND NOW A QUOTE FROM A GERMAN BREEDING-MASTER, EDGAR SCHUCHNER...

"...Nevertheless, off-colours occur time and again. The simple way out is to simply keep silent about their existence, i.e. everything is being hushed up carefully to prevent bad publicity for the kennel. Off the record, let us sympathize with the bitch who is called vile names for producing such stuff. Her only fault is to have proved the nature and effect of genetic laws, and besides, the laziness of the owner in studying a minimum of pedigree lore. The merit is not in hushing up, but in publicizing these off-colours. This is another reminder that whatever may happen

in a kennel, it should not be kept secret. No breeder has to shy away from making known occasional failures in this or that union if they were well calculated and planned out, particularly if anybody at any time can check on their correctness and suitability. For the rest, let us remember nature's laws submit to our own interference only up to a certain degree. Throwbacks to characteristics last exhibited in generations long past are always liable to occur and do not necessarily reflect on the prestige of the breeder. But to withhold on purpose the outcome of experiments and events in the kennel is harmful to the breeding profession, consequently objectionable, and unworthy of a breeder."

--this was translated from the German and published in the old "Dane Digest" in 1948, then again in Great Dane International, Jan-Feb 1971.

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AND A CANADIAN PROBLEM.....

We get the message--colour-marked pedigrees are important. Giving them out is common practice in the States (among reliable breeders) and is required of our members. They are easily obtainable from the American Kennel Club for American dogs, \$20 for 5 generations, and don't forget to ask for the colours or you won't get them. The address of the AKC is 51 Madison Ave., New York, N.Y. 10010.

Also there are many professional pedigree services which have up-to-date collections of U.S. stud books as well as those from England, Germany, and sometimes old ones from Canada too. One is Reed Pedigrees, P.O. Box 244, Ridgefield, Conn. 06877--Bud Reed is well acquainted with Dane pedigrees. These services are very reasonable in cost, such as 10¢ per name, which means a 5-generation pedigree comes to a little over \$6.

But here in Canada the situation is different. It is NOT the policy of the Canadian Kennel club to issue colour-marked pedigrees. It is also NOT their policy to issue more than 4 generations. And the CKC has NOT issued a Stud Book since 1968, which is why the professional pedigree services mentioned above cannot trace recent Canadian dogs. Also, a lot of Canadian Dane breeders do NOT give colour-marked pedigrees, and often do not give more than 3 generations, which may not go back as far as the last CKC Stud Book.

This may not matter much in other breeds, but in Danes, with the importance of pure-colour breeding, it can be embarrassing at best (for instance, if you are asked for a colour-marked pedigree on a bitch you want to breed to an American dog) and disastrous at worst. Already we know of two local champion dogs at public stud (non-member owned), one fawn and one brindle, with blues and blacks appearing in their 3rd generations. People are unaware of those colours and the problems they may produce in the future. Progeny from them and their littermates are numerous here and in other areas of Canada as well, including Southern Ontario, and they are being bred in turn.

What can we do? Well we can be AWARE, and keep accurate colour records of our own dogs and those we breed to, at the very least. This newsletter has been publishing 4-generation colour-marked pedigrees to the best of our ability. These have been compiled as accurately as possible from information given to the editor and from her personal files, although a recent check through CKC Stud books revealed that some colours given in the past by Canadian breeders were inaccurate. We can ask questions of U.S. breeders, too. And we can learn kennel names and what colours they usually bred, and whether or not they went in for mixing the families. For instance, a long-established Canadian kennel name, Rungmook-Starlaw, found in many pedigrees, bred blues, blacks, and fawns together. We can, perhaps, try to cooperate with other Dane clubs in Canada and collectively persuade the CKC to issue colours on Dane pedigrees at least. The CKC is unique in that anyone may become a voting member (after 3 years as an associate) and can present formal proposals for referendum. So join! (CKC--2150 Bloor St. W, Toronto, Ont. M6S 1M8).

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