WHAT IS COLOUR MASKING? by Frank Dohrmann
I have been asked for an explanation of the masking of colours as it occurs in albinos and lutinos. Maybe this will help.

To understand masking you need to know something of how colour works in budgies. In budgie feathers there is a colouring material called melanin. This is a brownish - black substance and in normals it takes the form of little rods like short pieces of black dowelling. These rods are surrounded by a layer of cells which make the **black melanin** look **blue.**The cells work on the same principle that makes those distant hills look blue. Surrounding the cells is a sheath which is yellow in the case of greens and yellows and which is clear in the case of blues and whites.
Think of a strand of feather as being a lead pencil - the melanin is the lead, the cells are the wood and the sheath is like the paint on the outside.

Think of the colour as a mountain range of black rocks. From a distance they look blue, and if you looked at them through a piece of yellow glass they would look green. If the mountains were white, they would look white no matter how far away they were, and now if you hold up your yellow glass they would look yellow.

Colour in budgies works exactly the same way.
And now back to those little rods of melanin that look like black dowelling.
If you started to whittle them with a penknife until they were about half gone you would get something shaped like a dumb-bell, which is the shape of the melanin rods in a bird with 50% body colour. If you whittled them into rings like an old-fashioned table leg you would get the effect we see in the rods of fallows and near-whites and bad yellows. Whittle away practically all of the rods and you would get good blackeyed whites and yellows. For the cinnamon effect you would have to let the borers riddle your piece of wood until it was honeycombed! All these whittlings have the effect of reducing the amount of the black core, therefore the blue colour would become less and less intense until there was no blue left, only white. Then the final colour would depend upon the colour, if any, of the outside sheath.

What has all this to do with albinos? Just this: the albino factor does not interefere with, or change, the shape of these rods in any way; it leaves them exactly as they were, except that it bleaches out the colour. The bird ends up white everywhere, even the eyes; the red eyes are just the blood showing through like red ink in a bottle.
The albino factor does not interfere with the colour of the sheath. If the sheath is clear, the bird is an albino. if it is yellow, we call it a lutino.

To return to our metaphor of the mountains, if the normal blue bird is a range of black rocks, then a good black-eyed white would be a range of white rocks and the albino could be either range covered with snow.The snow would make them look the same, but they would be vastly different underneath.Remember that looking at them through yellow glass will change blue to green and white to yellow.

If you mate an Albino so that its chicks again have colour in the central core of their feathers, then they will also have the shape of those melanin rods they have inhertied, and they will show whatever variety those rods produce. Albinos are recessive to normal, if the bird is carrying a factor for albino and a factor for non-albino then the bird will not look like an albino. The albino factor does not show if it has any opposition, but when it does show, it just bleaches out the original core colour no matter what it is. If it is a really good albino with no suffusion, it doesn't matter what the original was; a greywing opaline vollet mauve would bleach out to the same colour as would a normal sky. I have noticed that the brighter the red of the eye, the less suffusion the bird carries, but all red eyes show some suffusion in certain lights.

The albino factor does not interfere with light and dark factors, nor does it affect the sex linked factors for cinnamon or opaline. Everything is still there, but it has been bleached out.
Remember, she is still the same girlfriend even if she has peroxided her hair!