

and when a large quantity of thistles are present in the tares, a severe labial and facial eczema may occur. This, however, happens more frequently when the lambs are receiving an additional diet of albumenoid food, as cake or peas. These outbreaks occur on other green feeding stuffs than vetches, but rarely when sheep are upon green-food diet only, although the pastures may be charged, as it were, with thistles.

Again, in the horse, flannel-lined collars and pads are a frequent source of scapular and dorsal eczema to sensitive skinned animals, but the predisposing cause of the disease is invariably an important change of diet, or constitutional condition, affecting the excretory and digestive apparatus, the local manifestation being due to congestion and friction. I think exposure to continuous moisture operates as an entire cause in the production of eczema of the heels and pasterns in horses, which, in its latter stages, may become transformed into the chronic condition described as grease. Also vesicular eczema of extremities due to irritation produced by *symbiotes spatheferens*, is, of course, due to external conditions only. I have seen several cases of eczema produced in cattle and sheep by chemical irritants—arsenic and paraffin oil—but must regard such cases as purely artificial conditions. I have never, to my knowledge, seen it produced by the action of the sun's rays, in any of the lower animals, their hair or wool covering probably preventing this.

Local mammary eczema in the cow, the blister-pox and black-pox (which is *E. crustaceum*, by flies, dirt, etc.), of milkers, is possibly caused by irritation from the hands in milking or lying in constant moisture, especially decomposing urine. I think the latter is the true exciting cause, as the eruption frequently exists on the soft skin from the udder to the sternum, although, as previously stated, it is frequently unnoticed in this position. I say possibly caused by irritation, etc., because I think this disease, manifested locally in the cow, is always primarily caused by constitutional conditions. A few weeks ago a severe case of orbital eczema occurred in a cow under my notice, the eruption being confined to the eyelids and sides of face; this was suppressed by systemic and local treatment; there was no explanation for its localization.

In the human subject causes constitutional are

referred to under nervous shock, disturbed nervous functions affecting nutrition and circulation, in many cases caused by disordered digestion, painful dentition, menstruation, uterogestation, and parturition, eczema being not infrequently an indication of broken health. Many of the foregoing causes are in operation in the production of eczema in our patients, especially those referable to disturbed circulation and digestion.

It is difficult to define how far disturbed nervous function is a primary cause in any of the domesticated animals. Eczema is common in children during dentition. I have observed several outbreaks of the vesicular form in pigs during the eruption of the temporary teeth, but am not aware that this is a cause in any other species.

I have seen no cases in any animals which may be traced to œstrum, utero-gestation or parturition.

Two things have struck me as remarkable in the study of this subject, viz., the almost constant hepatic and occasional splenic changes in the lower animals, and in medical literature an almost total absence of any reference to either hepatic or splenic derangement as a complication of eczema, excepting so far as it may be inferred under dyspeptic conditions associated with hæmorrhoids or varicose veins.

I am of opinion, from post-mortem examinations made in the horse, pig and dog, and from the line of treatment most successful in those animals, that the liver is the viscus, which is, in a large proportion of cases, the primary cause of cutaneous disturbance. This, of course, will not apply to those cases of chronic eczema in the dog, which are coincident with cardiac disturbance or valvular disease with secondary hepatic changes.

Personally, I have been a subject of local eczema for many years, and it frequently occurs either in conjunction with or immediately after functional disturbance of liver.

Acute eczema is frequently fatal in very young pigs, i.e., from three to six weeks old, and under the circumstances it is not infrequently reported for swine fever. A whole litter will sometimes die off and the only post-mortem changes remarkable are the intense congestion of the liver and the marked cutaneous eruption which is equally distributed over the whole skin surface down to the knees and hocks.

It has struck me that heredity must play some