



FAMILY TREE OF THE DOG AND HIS KIN

As drawn up by the late Prof. W. D. Mathew of the University of California. Note the gigantic size of some of the extinct "bear dogs."

under cover and a sudden leap at the shoulders and neck. If the first pounce fails, the prey will probably escape; the cat cannot pursue its quarry for miles as a pack of wolves or hunting dogs will do.

Dogs' Social Development

The only cat-like animal that hunts like a dog, the cheetah of southeastern Asia, is built more or less like a dog: long-legged, armed with claws that cannot be withdrawn, rather longer-jawed than most cats.

The secret of these diverging modes of development in dogs and cats, Prof. Mathew indicated, lies in the kind of country each line chose for its habitation. In the forest, which is the natural home of cats, there is cover behind which the hunter can lurk, and there are natural paths down which the intended prey may be expected to come. But dogs developed in open lands, on the prairies and plains, where hiding is not very good and where the herbivorous beasts are longer-legged and fleet. One must therefore be able to give chase and follow, if necessary, for miles.

Prof. Mathew pointed out that the environment probably influenced not only the dog's physical frame but his mental makeup as well. Dogs are social; they hunt in packs. Cats are solitary as a rule. Why?

Pack-hunting gives much better chance of success where pursuit has to go on for miles and hours. The pack

can spread out, preventing the quarry from doubling. When the prey is at last overtaken, the hunters can take turns leaping and slashing; everything need not be staked on one pounce of one animal. In the open there is greater strength in numbers.

But in the jungle, where the cats hunt, there need be no long pursuit, no repeated leap and slash. One pounce suffices to bring down the prey. And if one has no hunting companions one need not share the meat. So cats can be solitary.

This has influenced the respective degrees of domestication to which it has been possible to bring cats and dogs. Cats do not form permanent associations with their own kind; they make no friends, have no loyalties. Why then bother to find friends among an alien species, like man—unless you can get something out of him? So the cat continues to walk by herself.

But the dog, accustomed by long ages of pack-hunting and friendly living with other creatures of his own species, is naturally social. He has some notions of the advantages of mutual effort toward a common end. He knows something about loyalty toward a leader, toward a tried mate. It is therefore not so hard for him to take a two-legged creature into a hunting partnership, or to elect him to the high privilege of loyal friendship.

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ENGINEERING

Electric Heating Keeps Chickens Warm

BOILING water with electricity to keep chickens warm is the unusual job that has been undertaken by a combination of mechanical and electrical engineering at a big poultry farm near Edinburgh.

Chickens rather than humans, according to the English technical weekly, *Engineering*, are getting the benefit of the latest advances in both fields of engineering. Not only are nearly 100 per cent. efficient electric boilers being employed, but use is made of a seldom-used device, the steam accumulator. The accumulator, installed for safety's sake, stores up steam and prevents a failure in supply that might cause two million chickens to die.

Warm air, changed twenty times every hour, is carried to the brooder rooms and circulated over the radiators by means of fans. All controls, including those of the boilers and accumulator, are automatic. Except for the supervision of an electrician in the daytime, the apparatus receives no attention.

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ICHTHYOLOGY

Unlike Relatives, Trout Prefer to Stay Home

UNLIKE those fish that are caught traveling many hundreds of miles from home, as evidenced by tags placed on them in the home waters, Wisconsin trout seem to prefer the comforts of home to travel through the seven seas.

At least this was indicated by recent experiments when trout caught, tagged, and returned to Wisconsin streams were recaptured from one to several weeks later within a quarter of a mile of the spot of original capture. Many of them apparently had not moved at all from their favored bit of water.

Wisconsin, which already has many fish spawning sanctuaries, recently established 96 more for trout, bass, pike, and pickerel.

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Nearly 200 schemes for calendar reform have been presented to the League of Nations.

The use of soybeans goes back to the beginning of China's agricultural age under Emperor Shen Nung.