

of pool water may be changed to a beautiful blue by over-chlorination. This treatment gives rise to the formation of a rusty precipitate which settles to the bottom of the pool. This sediment may be iron or iron organisms. Possibly this lessening of turbidity may lead to greater reflection of the blue part of the spectrum. Use of the algaecide, copper sulphate, may also have an effect on the color of the water. The presence of chemicals, color, or organic matter in pools may add both to their cloudiness and to their cost of operation by increasing their chlorine demand.

In certain pools where both ammonia and chlorine are used, excessive amounts of nitrites may occur and interfere with the accuracy of the ortho-tolidine test for residual chlorine. Nitrites may be found in pools where chloramine is not used. Frequent determination for nitrites should be made, and the ortho-tolidine solution used should be such as not to be influenced by them.

The amount of available or excessive chlorine in a pool should not be less than 0.4 p.p.m. nor more than 0.6 p.p.m. This can best be obtained by the use of chlorine as a gas or in water solution and by continuous rather than by intermittent dosage. High alkalinity of the water is said to have a definite effect in the reduction of the loss of chlorine from disinfected swimming pools and to cause less trouble with chlorine odors.

Chloramines are slower acting disinfectants than chlorine and to this extent are not so safe. They are, however, more lasting and higher disinfectant dosages may be carried without causing irritation of the eyes and nose. In large or outdoor pools, chloramine may also have certain advantages. Where it is used, the amount available should not be less than 0.7 p.p.m. nor more than 1.0 p.p.m.

Bathing Beach Biology

The most troublesome organism to be found at bathing beaches is a species of anthropoid often called *Homo Sapiens*, or "Man, the Wise." This designation is a misnomer because this form of life is often neither wise nor manly. These vertebrates will sometimes multiply so rapidly in a pool that those on the swimming board will be jumping on those in the water, crippling or drowning them. The more adventuresome will climb into towers, balconies, rafters, or trees and dive head first into shallow water, killing themselves and interfering with the operation of the pool.

At bathing beaches "Homo, the Sap" fills himself with sizzling steaks or fried chicken and immediately plunges into the lake to demonstrate how far he can swim in deep water on a full stomach before he drowns. Year after year this experiment creates great excitement at summer resorts, causes lifeguards endless headaches, gives fishermen a chance to make a few dollars with their grappling irons, and stimulates the undertaking industry.

As a rule most warm-blooded animals will avoid cold water and will not deliberately go beyond their depth. Even polar bears will not break through ice in winter to stand shivering in ice water while photographs are made for the rotogravure section of the police gazette.

Warnings mean little to Homo. He will plunge into deep fresh water lakes in early summer, stiffen, cramp and go down. He will defy currents and tides to be drowned. He often seems possessed with the fixed idea that if he can not swim in water up to his neck, he will do so with ease where it is forty feet deep. This paranoia has ruined many vacations and has cost insurance