FORESTRY

NATURE RAMBLINGS
by Frank Thone

Forestry's Magna Charta

DURING the past ten years a quiet revolution has taken place in this country. It has little or nothing to do with the socio-political field—there has been a revolution there, too, if you like; but nobody could claim it was a quiet one.

Our quiet revolution nevertheless affects the lives of all of us and will continue to do so for a long time to come, for it is in the field of forestry. Ten years ago Congress enacted the McSweeney-McNary bill, which placed forestry research in this country on a solid, systematic basis. During September, foresters celebrated the decennial of their Magna Charta, and a special issue of the *Journal of Forestry* (Sept.) is devoted to a discussion of scientific progress in all branches of forestry during that period.

There is much more to forestry than just going out and planting a lot of new trees where old ones have been cut down. Managing a forest is a more complex job than managing a factory—or even a whole chain of factories, for forest products cover a range all the way from timbers and turpentine to such intangible services as watershed protection and fun for fishermen. And forest research must take all these things into account.

Basic idea of the research program is stressed by Dr. Earle H. Clapp, associate chief of the U. S. Forest Service:

"The Act and the various things that have grown out of it have helped drive home the concept that the forest of any area is a biological entity, all the elements of which are integrated with all the others and are influenced by them.

"The biological elements of the forest of an area or region extend in the same way into the social and economical field. All of this exceedingly complex interrelationship has emphasized the need for conducting research on the basis of these relationships, or in brief, the need for cooperation by groups of specialists in co-ordinated, well-rounded-out many-sided attacks in contrast with isolated and purely individual work."

Science News Letter, October 1, 1938

CHEMISTRY

Radioactive Iron Atoms Give New Way to Diagnose Anemia

Act as Tracers to Show Absorption of Iron in Blood; Non-Anemic Test Animals Show No Such Absorption

BOMBARDED iron atoms, made artificially radioactive until they give off radiations like radium, hold the possibility of serving as a test for anemia, it was reported to the Milwaukee meetings of the American Chemical Society, by scientists from the University of Rochester School of Medicine.

In studies on anemic dogs it was found that these radioactive iron atoms, serving as tracers of absorption of iron in the body, entered the blood plasma and later the red blood cells. Six hours was all that was needed to show first evidences of this absorption and by the end of three days virtually all the absorbed iron was in the protein of the blood cells.

In contrast in the case of non-anemic dogs, there was practically no absorption of the iron into the blood plasma and cells. This is therefore the key to rapid diagnosis. The new test was reported by Drs. William F. Bale and Frances L. Haven, of Rochester, N. Y.

"It would appear," they reported, "that, at least in the dog, iron absorption from the gastro-intestinal tract is governed by the need of the body for iron. It seems certain that this radioactive iron will in the future prove a valuable tool in anemia and blood regeneration studies, since in the past studies of iron assimilation and use have been difficult and the results uncertain because of the difficulty of chemical analysis with the small amounts of iron involved."

Participating in the experiments were Dr. P. Hahn and Prof. G. H. Whipple, of the University of Rochester, and scientists of Prof. E. O. Lawrence's laboratory at the University of California.

New Treatment at Mayo

A more scientific treatment for the dangerous ailment of intestinal obstruction in man was suggested in a report by Mayo Clinic chemists and physicians.

From experiments on animals it has been shown previously that during such obstructions the amount of potassium in the blood serum increases and it has been postulated that death in these animals, not given remedial treatment, was due to potassium poisoning, said Drs. Arnold E. Osterberg, J. A. Bargen and M. A. Falconer, reviewing their past studies and those of other workers.

On patients at the Mayo Clinic having this serious affliction, the scientists tested out this hypothesis to check human against animal behavior. Contrary to findings in animals the human patients showed, not an increase in potassium in their blood serum, but an actual decrease.

These new studies emphasize the differences which sometimes exist between conditions found in animals and the clinical findings in man and show how slow medicine must be in any attempt to translate discoveries on animals into conclusions on human patients.

At the Mayo Clinic now, instead of making every effort to decrease the potassium content of the blood serum in cases of intestinal obstruction, the patients are being given injections of solutions containing small amounts of potassium, calcium and sodium salts as well as sugar for its quick energy content. These injections are given following the removal of the obstruction by surgical or other means.

New Growth Substance

A new growth chemical, known as "biotic acid," has been discovered at Oregon State College by Prof. Roger J. Williams and Robert E. Eakin, who described its properties and action in a technical report to the chemists.

The new substance stimulates the growth of yeast cells and appears to aid another growth chemical, known as