

Haldane on the Nobel Prizemen

The scientific prizes for 1939 assayed by the noted English bio-geneticist and Marxist.

EVERY year the Nobel prize award committee in Stockholm gives prizes for chemistry, physics, medicine, literature, and peace. The prize money is derived from the profits made in the manufacture of explosives. Although there may have been occasional mistakes, it is generally admitted that in most cases the scientific prizes have been justly awarded.

The 1939 prize for chemistry is divided between Adolph Butenandt of Berlin and Leopold Ruzicka of Zurich, for their work on sex hormones. These substances are responsible, among other things, for the changes which occur in men and animals at puberty. Thousands of years ago, probably in the neolithic age, it was discovered that if male animals were castrated, they did not develop normally. They are almost always tamer, and in some cases very different in appearance. Anyone can tell an ox from a bull.

But only in this century has the process been reversed, so that a boy who has not developed normally can sometimes be enabled to do so. Gallagher and Koch in Chicago concentrated a substance from bulls' testicles which would make the combs of capons, castrated roosters, grow again. Their preparations were active. But they were not pure, any more than beer is pure alcohol, or opium pure morphine. Butenandt was the first to obtain a substance of this kind in pure form, and determine its chemical composition. Ruzicka did the same with other gland secretions which have similar effects. In addition they have worked on the substances which play a like part in the female sex, both in connection with puberty and pregnancy.

A BLOW FOR QUACKS

Thanks to Ruzicka, these substances can be made in a factory by the transformation of much commoner substances. There is now no need to work up ten tons of male urine,

as Butenandt did, in order to obtain a fraction of an ounce of one of them. Ruzicka has also worked on synthetic perfumes and many other topics in organic chemistry. Now that these substances have been isolated, there is no excuse whatever for treating human beings with ill-defined extracts of animal "sex glands," as they are described in advertisements. The pure hormones are far from being cure-alls, but are definitely useful in some cases.

Dr. Ernest O. Lawrence of California got the physics prize for his work on atomic nuclei. Rutherford first showed that these are sometimes transformed, so that one element is turned into another, in very small quantities, of course. His pupils Cockcroft and Walton accomplished this process by artificial means. In an electric field of about half a million volts they got the nuclei of hydrogen atoms moving so quickly that they actually penetrated those of other elements and united with them. Thus nitrogen atoms were formed from carbon, and so on.

Lawrence invented an apparatus called the cyclotron, which, for some purposes at least, is more efficient than Cockcroft's and Walton's apparatus. Many of the new types of atom formed with its use are strongly radioactive. Some of them seem likely to be of as much value as radium emanation in treating cancer. Others are being used to solve biological problems in another way.

Biologists have long wanted to know how quickly the substance of our bodies is replaced. For example, are the bones of an adult composed of the same atoms when he is sixty years old as when he finishes growth at twenty? If you feed an adult rat with sodium phosphate containing radioactive phosphorus you soon find some in his bones. This means that the bones are constantly exchanging atoms with the blood. In other words, during life the form of the bones is not like that of the parts of a machine, but is kept steady by means

of constant change, like the form of a candle flame or a waterfall.

The prize for medicine went to Dr. Gerhard Domagk, who works for the Interessengemeinschaft der Farbenindustrie, the great German chemical monopoly. He found that a red dye called prontosil, made by Miesch and Klarer of the same firm, would cure mice of infections which would otherwise have killed them.

ANTISEPTICS

All antiseptics are somewhat poisonous to men and animals, some of them very much so. Mercuric chloride and iodine are all very well for disinfecting cuts, but if swallowed, they will kill a man long before they kill all the germs of disease in his body. Prontosil and other drugs of similar composition, such as sulfanilamide and sulfapyridine, are dangerous, and have killed a few people. But they have been extremely successful against puerperal fever, pneumonia, gonorrhoea, and some kinds of meningitis.

Ewins and other workers employed by the British firm of May & Baker have produced a particularly useful remedy related to prontosil. But it is impossible at present to say which of the competing drugs of this group will finally be used. Some of the best are very expensive, because they are protected by patents. Hence doctors may prefer to use a less efficient drug which costs less because it cannot be patented. This means a sacrifice of life to profits which is inevitable so long as research on drugs is carried out by firms, and not by hospitals or government laboratories.

It is worth noting that two prizes were given to Germans, although when the peace prize was given to Carl von Ossietzky some years ago, the Nazis objected, and stated that in future they would give their own prizes. Both Butenandt and Domagk are organic chemists, concerned with the patterns in which atoms are arranged. The Jewish chemists in Germany were most successful in studying chemical changes: either in the factory, like Haber, who showed them how to fix atmospheric nitrogen in 1914-18, and thus prolonged the war; or in living beings, as did Warburg, who found out how cells breathe.

German science has suffered severely from the Nazi dictatorship, and will suffer worse in future, because the supply of young men and women has been severely cut down. But especially in the field of organic chemistry, a number of first-rate men still remain.

J. B. S. HALDANE.

A Scientific Arm

Professor Haldane, besides talking politically to workers and writing for the London "Daily Worker," is also active in the defense of Great Britain's people as this poem which appeared originally in the English "New Statesman and Nation" shows.

"What, teacher, can that object be inside a plate-glass drum?"
 "It is Prof. Haldane whom you see, testing a vacuum."
 "Why are they hurling bombs so near that shelter made of tin?"
 "That is a bombproof test, I hear, Prof. Haldane is within."
 "Oh, look! From yon balloon so high what dangles large and limp?"
 "It is Prof. Haldane, we espy, air testing from a blimp."
 "See driving near the waterside that buoy of strange design!"
 "That is Professor Haldane, tied, decoying of a mine."
 "On sea, on shore and in the air, protecting us from harm,
 "Prof. Haldane meets us everywhere—our scientific arm."

SAGITTARIUS.

Sic Transit Ginsberg

"**G**EN. WALTER G. KRIVITSKY, former Soviet Russian military intelligence chief in Western Europe, fled with his wife and son, Alexander, from the United States on Tuesday, federal officials disclosed yesterday, less than a week from the time he was to have been deported for having overstayed his leave. Neither the Krivitskys' destination nor their means of transportation was divulged."—N. Y. "Herald Tribune," Dec. 30.

A Toledo Christmas Carol

Mr. Addison Thatcher, the Toledo Dives, gives Lazarus and his brothers a handout and the bum's rush.

Toledo.

TO THE hungry of Toledo, the electric berries aglow on yuletide shrubbery fronting the city's more ornate residences were less bright than a canvas sign over Addison Thatcher's gymnasium on Cherry Street. Mr. Thatcher was inviting the world to Christmas dinner.

It is not known why Addison Thatcher's heart beats so tenderly over the plight of Toledo's poor. That he is a wily politician and has only recently been reelected to Council by an overwhelming vote has little to do with it, he says. "This dinner has been an annual affair now for twenty-nine years. My political career dates back but ten," Mr. Thatcher explains.

I was among those who shoved into the line that ran the length of the food counter in the shadowy hall, crowded with hundreds of hungry men and women. The sign outside said there would be no questions asked: hunger can be a song without words. If anyone thought up questions it was the guests. One read plenty of them in their eyes, a gleam with painful curiosity in each other's fate—understood so well without the interposition of verbal questions. Everyone betrayed a slight shyness over his presence at this joyless festival which Toledo holds but once a year.

NO LOITERING

In the crowd were many well dressed individuals sidling into line, fingering a plate off the heap of dishes and digging into the racks for knife and fork. The counter women in white kitchen aprons besmeared with gravy and meat stains were kindly and apologetic when I got there—the meat was gone, and all they could now dish out was the fatty remnants that thickened the gravy for two slices of white bread spread out on each plate. No one whimpered. In fact, everyone appeared grateful, for it was rumored that an unsated guest would have the chance to line up for a second helping, even a third or a fourth. It did not matter to Mr. Thatcher as long as guests were eating and showed no signs of lingering about the radiators. Outside the day was graying to a hard wintriness and there was a sharp feel of snow in the wind rushing down on Cherry Street. If anyone loitered, Mr. Thatcher whisked over to one of his sweepers and soon the sweeper was on his way to clear the hall of surplus human debris. It was clear that Mr. Thatcher would respect his guests till they had been fed; after that, it was "outside, boys . . . no loafing here. . . ."

With this slot-machine slickness of service it was obvious why the dinner lacked a flavor of cigars and ice-cream. The papers reported there had been ice-cream for the earlier comers, but no one among those seated on

the backless benches at the long tables laid with brown wrapping paper (guests used their coatsleeves for napkins) was able to attest to the actual presence of ice-cream at the feast. Salt was served in large bowls and the diners pinched it out with thumb and forefinger.

The table d'hote was mashed potatoes, boiled carrots, sauerkraut, and an overspread of gravy. One might reach for a cup later and stop one of the java-pourers wandering among the tables.

MR. THATCHER

The meal was downed amid a crushing lack of levity. Perhaps the gloom that inundated the hall from the row of high windows, through which the late afternoon filtered a smudgy light, had something to do with it. There was no hilarious flaw in the solemn mechanism that operated so efficiently from the women dishing out the meals to the sweepers sweeping out the diners who had eaten. One wished for something to occur—something silly, belly-quaking. But there was only Mr. Thatcher himself, millionaire, councilman, and philanthropist, a graying, hard-craniumed gentleman with hawk-like eyes and the politician's hand reaching out with professional smoothness into any other hand extended along his path. His casual words of welcome induced the diners to linger beyond their wonted time—until Mr. Thatcher had vanished in his office, leaving the subject of his pleasant address to the brusque attentions of the sanitary squad.

But Mr. Thatcher was decidedly unfunny. One of his fingers flashed a noisy diamond. He threw off prosperity like a heavy perfume. Miraculous as water-walking was his gallivanting, unsoiled, across this cesspool of economic misfortune. Most probably he had a Christmas party of his own on somewhere, for he betrayed signs of being in a hurry as he wound among the diners.

Most of the diners, white and colored, were clad in ragged mufti with seams that were all too hospitable to the snarling winds outside. Their faces were sullen, unadorned with gratitude. The food was well cooked and fittingly relished with many an aftersmack between the final bolt of mashed potato and the first gulp of dubious coffee that washed it down. The wind-chapped faces, ploughed with the heavy weather-lines of truckdrivers or lake pilots, bent cheerlessly over their platters. Their eyes lifted toward the filmy light seeping in from the windows, a prison-sad light, and the snow now crackling like popcorn on the window panes. They decided on a second cup of coffee before buttoning up against the unknown. There was little comment on the food from persons whose artil-

lery of description is all of the negative variety picked up in transient houses and handout refectories of our surplus-ridden land.

The cost of the meal to Mr. Thatcher comes to 10 cents a plate. Since feeding the hungry once a year is one of his longstanding hobbies—much as greyhound racing or book collecting is to people of more elaborate culture—one is not disposed to be unkind toward him. Certainly the meal warmed many a stomach into feeling the good old days were back again.

At four, the dinner was over. Late callers kicked vainly on the door, freezing their hands on the great brass knobs. It was evident from their number that not all of the city's hungry were to be Christmas-fed. But thirteen thousand meals were served. The diners, drawing their sleeves across their mouths like violin bows, snuggled inside their coats and, outside the door, drew up their faces against the razor-like winds. Many, vanishing toward the city's less reputable quarters, were gone once more into the realm of Republican myth. The city would scarcely know of their existence again until Mr. Thatcher's invitation beckoned them back into the flesh next December. Doubtless, Governor Bricker will continue to insist these folks are ghosts. But these ghosts showed they could shiver in a sub-zero wind. One of them dabbed a tentative hand out into it, and said, "By golly, it'll soon be nearly as cold as Mr. Bricker's heart. . . ."

ED FALKOWSKI.

Democratic General

GEN. KURT MARTTI WALLENIUS, commander of the Finnish armies on the central and north Finland front, is an old hand at the kind of "Finnish democracy" the press finds praiseworthy. In 1930, General Wallenius was chief of General Staff and a leader of the fascist "Lapua" movement, which was severely criticized by the former Finnish president, Dr. Kaarlo Juho Stahlberg. So General Wallenius and his gang kidnapped the aged president and his wife, for which he was sentenced to three years in prison. Now Baron Mannerheim, a "fellow-democrat," has put him in charge of the northern army as a democratic example to the fighters.

Einstein on Intellectuals

IN AN exchange with Sigmund Freud, Albert Einstein once made the following remark on the treason of some intellectuals:

Is it possible to control man's evolution so as to make him proof against the psychoses of hate and destructiveness? Here I am thinking by no means of the so-called uncultured masses. Experience shows that it is rather the so-called "intelligentsia" that is most apt to yield to these disastrous collective suggestions, since the intellectual has no contact with life in the raw, but encounters it in its easiest, synthetic form—upon the printed page.