Russian newspapers and magazines and not an American scientific periodical.

As to the contention that our letter does not contribute to the friendship of the United States and the Soviet Union, we are strongly convinced that the friendship between two great nations cannot be built on the basis of misrepresentations and appeasement of tyrants. Munich showed us the futility of such a cowardly policy. The thesis that everybody who is criticizing the Soviet Government or even its certain policies is an enemy of the Russian people is well established in the USSR but not necessarily in the United States, where public opinion seems to understand that the Government and the people of the Soviet Union are not synonymous, as is the case in all totalitarian countries. It means also that the Russian people should not be held responsible for the crimes of its Government. The purpose of our letters is to stimulate public opinion against the slavery of science in the Soviet Union, because we think that the freedom of science is a prerequisite for the establishment of normal international cooperation in that field and is also a safeguard against the use of science for aggressive war purposes. We know that we cannot please everybody: the oppressors and the oppressed, the proponents and opponents of the Soviet regime. Our choice is the side of Russian people and not of its oppressors.

In conclusion, we venture to mention that even the indiscriminate use of quotation marks cannot change the fact that we never said that we do not understand the language of common Russian people. One has only to read the last sentences of our letter to see that we referred simply to the constant and persistent misuse by Soviet propagandists of such words as freedom, democracy, etc. That such practice of many years in a totalitarian country, isolated by the iron curtain from the outside world, can affect the minds of the people, especially of the younger generation, was abundantly demonstrated by Hitler and hardly can be denied. And that is why we mentioned that probably we and Dr. Zhebrak talk different languages.

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On Science and Government Subsidies

The discussion in *Science* of the proposed government support of scientific research reveals that while some scientists do not seem to realize the tragic deterioration in the character of the U. S. Government, there are many practical scientists who fully comprehend the facts in the case. Thus, the letter from M. W. Welch (*Science*, 1946, **103**, 430) justly doubts the wisdom of enacting questionable legislation without surrounding it with adequate safeguards. Mr. Cohn, in the same issue (p. 430), outlines a plan for the sound administration of such an act.

However, many of us who have had actual experience in wartime government service both overseas and in Washington have become hard-boiled cynics where altruistic planning and control by the Federal Government is contemplated. Not only have we seen too much of incompetence, waste, and bureaucratic bungling, but also we have learned to question the real motives of most of the legislation publicized as being for "the public welfare." The Murray-Dingell-Wagner socialized medicine bill, the Kilgore-Magnuson bill, the national school lunch legislation, schemes for price control, anti-inflation, Federal housing, farm subsidies, atomic energy control, and what-have-you, all have as a common denominator an ulterior purpose—increasing regimentation of the American people, greater spending (and electing), and more jobs for bureaucrats. (Thus, the "public health" act would require the employment of 300,000 more jobholders.)

To place American scientific research in a bureaucratic straightjacket would greatly retard our own progress while other nations forged ahead. When and if the United States returns to its normal American form of government, crushing taxes are reduced, and restrictions and controls are removed from industry and agriculture, there will be ample surplus funds available from the incomes of generous American citizens and corporations to support sound scientific research foundations serving national needs with that independent efficiency found only among free men.

American science, which has contributed largely to making our United States the leader of the world, can continue its vital services to mankind without any additional government subsidies or supervision.

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New Units for the Measurement of Radioactivity

In *Science*, 1946, **103**, 712, E. U. Condon and L. F. Curtiss, representing the National Bureau of Standards and at the suggestion of the Committee on Radioactivity of the National Research Council, propose a new unit to replace the curie to express the strength of radioactive sources. They choose as the new unit 1,000,000 disintegrations per second, to which they assign the name "rutherford." A microrutherford would, therefore, be one disintegration per second.

While it is true that the curie was originally adopted in 1910 by the Congress of Radiology as a standard of radon, its use was later extended to any other member of the radium series in radioactive equilibrium with one gram of radium element. Subsequently the curie has been adopted as the unit of rate of disintegration of all radioactive elements. The accepted value is 3.7×10^{10} per second. While there has been some disagreement over this value, this is in no way the fault of the unit but lies rather in the inaccuracy of its physical measurement. A gram of radium in the form of a salt can be purified and weighed with an accuracy far exceeding that of any existing method of radioactive measurement.

The adoption of a new unit will not improve the methods of measurement or enhance the accuracy of the data. Hence, if it does not give added convenience, it seems to have no advantage and will simply lead to unfortunate confusion. The fact that the magnitude of the unit is unhappily chosen may be seen by consulting the values given in terms of curies, millicuries, and micro-

curies for new fission products in Tables 1 to 6 in the same number of *Science* (pp. 700–704). In all cases the use of the new unit would give more awkward numerical expressions. The claim that the new unit is chosen so small as to avoid confusion with the curie is not an appealing one.

Finally, let me disclaim any disinclination to honor Lord Rutherford. No one could be more worthy of the highest honor in the field which he did most to create. But to name a new unit for him where one already exists seems to be superfluous and would spoil the term for future use. If there is to be a unit named for Rutherford, let it be one worthy of him.

The same authors further recommend a new unit, r.h.m. ("rum")—one roentgen per hour at one meter from the source for intensity of gamma radiation. The convenience of such a unit is something for radiologists to decide. Both questions should be referred to the appropriate international body of which the National Research Council is a member.

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Thyroid Adenomas in Rats Receiving Selenium

We have observed increased size, hyperplasia, and loss of colloid in the thyroid glands of 16 white rats which had received 0.05 to 0.1 per cent bis-4-acetamino-phenyl-selenium dihydroxide in their diet for 10 days. Eight white rats which had received 0.05 per cent of the selenium compound for 105 days had multiple adenomas of the thyroid glands and adenomatous hyperplasia of the liver. A detailed description of the experiments, complete pathological findings, and comparative effects of other organic and inorganic selenium compounds will appear elsewhere. Here it suffices to point out the goitrogenic action of the selenium analogue of a sulfur compound and its property of producing adenomatous changes in a relatively short time.

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Cestode "Parasitized" by Acanthocephalan

While engaged in a survey of the fisheries of Great Bear Lake, Northwest Territory, for the Fisheries Research Board of Canada, the writer observed that nearly all the lake trout, *Cristivomer namaycush* (Walbaum), were hosts to two intestinal parasites. One of these was the cestode, *Eubothrium salvelini* (Schrank), and the other the acanthocephalan, *Echinorynchus salvelini* (Linkins). Normally, both parasites were attached to the intestinal mucosa of the host, the tapeworms by their scolices and the acanthocephalans by their proboscides. A number of specimens of each were preserved for record and study. This winter an examination of the preserved tapeworms revealed that those from two different trout had some of the acanthocephalans firmly attached to their bodies. One cestode had four of them. Each acanthocephalan had buried its proboscis to the full extent in the strobila of the tapeworm. Some were attached to the sides of the cestodes and others to the ventral and dorsal surfaces. The specimens attached to the tapeworms appear similar in every respect to those which were attached to the host's gut.

Since the proboscis of the Acanthocephala is, like the scolex of a tapeworm, solely an organ of attachment and not a means of gaining nourishment, this relationship is not truly parasitism. Although attached to the tapeworm, the acanthocephalan is still parasitic on the trout, as it is from the trout that the food supply is derived.

This association of parasite and parasite probably arose when some of the acanthocephalans, arriving in the intestine of a trout, found the attachment sites preoccupied by a large number of the tapeworms. In seeking to fix themselves, they imbedded their proboscides in the only available solid objects—the tapeworms.

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Antipurpuric Action of A-Tocopherol (Vitamin E)

Stilbestrol given intramuscularly and intravenously to four dogs in doses of 10–20 mg./day quickly produced increased capillary fragility, prolonged bleeding and clotting times, and reduced platelet counts. When this dosage was continued for 14–25 days, a true purpura developed. This could end in widespread, large and small subcutaneous and visceral hemorrhages, bleeding into the body cavities, or even hemorrhagic death. These observations had been made previously by Castrodale, *et al.* (1941), and by Tyslowitz and Dingemanse (1941).

Giving these purpuric dogs testosterone propionate seemed not to be helpful; but administering synthetic α-tocopherol acetate (ephynal-Hoffman-La Roche) in oral doses of 200 mg./day quickly cured the purpuric animals, restoring platelet counts and capillary fragility to normal. If given sooner, it prevented the appearance of the frank purpuras and the blood-vascular deficiencies.

The antipurpurogenic action of vitamin E has been demonstrated to be valid for human purpuras also. Five thrombocytopenic purpura patients, one of whom had not been helped by splenectomy, had platelet counts and capillary fragility quickly restored to normal or near normal on 200–400 mg. ephynal orally per day; their clinical evidences of purpura disappeared proportionately. There was a great clinical improvement in one man having terminal purpura and aplastic anemia associated with advanced lymphosarcoma, as well as in three women who bruised readily, suffered from menorrhagia and metrorrhagia, and showed slightly reduced platelet counts.

This effect of vitamin E at the above dosage appeared in 7–14 days, but it seems that the treatment must be continued for long periods of time, if not permanently.

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