Two Barrier Phenomena

J. H. Van Vleck
Harvard University, Cambridge, Massachusetts

[*Editor's Note*: In the first part of his address as retiring president of the American Physical Society in Cambridge, January 23, 1953, Dr. J. H. Van Vleck, Dean of the Division of Applied Science at Harvard, made some remarks of great interest to all scientists, in contrast to the second part which dealt with the inversion spectra of ammonia. The first part appears here.]

IN SEARCHING FOR A SUBJECT, I find that that some addresses of retiring presidents have been discussions of topics relating to the social responsibilities and problems of physicists, while others have been technical reviews of research in a particular phase of physics. Professor Bridgman struck a compromise by giving a retiring address which was part political, part physical, and being from Harvard, I have naturally decided to follow his pattern. One of the barriers about which I shall speak today is political and macroscopic, the other is physical and microscopic. As you perhaps have guessed, the political barrier phenomenon of which I will speak is that presented by the present policy of the United States regarding visas for visiting physicists from abroad. Because of limitations of time, I shall not discuss the reciprocal problem of the difficulties sometimes experienced by United States citizens in obtaining passports. At the St. Louis Meeting (November, 1952) the Council of the American Physical Society adopted a formal statement which I shall now read, inasmuch as the minutes of this meeting have not yet been printed in the *Physical Review*.

"In the past few years the progress of American physics has been impeded by United States visa and passport restrictions. A few American scientists have been denied passports and many distinguished foreign scientists have failed to receive United States visas even for short visits to attend scientific meetings. Other foreign scientists fail to come because their visas arrive too late after delays of many months or because they have been irritated by inappropriate questionnaires and inquisitorial personal interrogations. The international notoriety of these difficulties is now such that some international scientific meetings that originally were to be held in the United States have been transferred to other countries.

"The personal exchange of ideas and the collaboration with foreign scientists are essential sources of information and ideas which cannot be replaced by written correspondence or by the study of foreign publications. The present restrictions of personal contacts are cutting deeply into this important source of our scientific production. This loss of scientific potential may even jeopardize our national security. Had similar regulations been in force prior to 1942, it is questionable if the United States would have developed the atomic bomb during the last war or have made great advances in radar.

"This loss to the United States is not compensated by any gain in the security of classified information, since the meetings from which the visitors are excluded are open scientific meetings on unrestricted subjects. The main reliance for the security of our technical secrets must necessarily be on the very strict guarding of restricted information by those who have access to it and not on such illusory and ineffective procedures as the exclusion of foreign visitors from open scientific meetings. Furthermore, the interrogations of foreign scientists are chiefly effective in excluding and humiliating scientists who believe in political and intellectual freedom rather than in detecting spies, who would be less scrupulous about their answers.

"The Council of the American Physical Society is not questioning the propriety of excluding any person who seeks admission to this country with any idea of advancing communism here. However, the Council strongly urges a more realistic approach by our government to the problem of travel restrictions, to the end that free scientific interchange shall not be impeded."

The Council released this statement only after considerable reflection and soul-searching. The American Physical Society is a non-political organization. The resolutions which the Council has adopted hence do not relate to political or social concepts of what American policy should be, and are confined to issues which concern our output and efficiency as physicists. As you can see from the text, the Council feels that things have reached an impasse where our professional efficacy is being seriously hampered.

No doubt most of you know of individual instances where entrée has been refused some European physicist with whom you would welcome professional contacts. If not, you have only to read the October, 1952 issue of the *Bulletin of Atomic Scientists*, where you will find cases documented in detail. All told, it is a shocking and depressing record which I recommend you to examine.

I want now to add some of my personal views on the visa question, as an American citizen and individual physicist, entering into somewhat more gen-

eral considerations which lie beyond the province of proper council action.

It seems axiomatic that the aim of our visa policy should be to help make America strong and secure, and I propose to look at the question solely from the selfish standpoint of our national interests. From a more altruistic standpoint, however, it seems perfectly clear that we cannot have a free world without a free America. Conversely, without the support and sympathy of Europe, the task of defending America is much more difficult, if not impossible. Let us for the moment leave aside the question of scientific research, and look at considerations that apply to philosophers, artists, business men, laborers, as well as physicists. In my opinion a less wooden and more understanding policy on visitors' visas would materially strengthen our security because of the better understanding it would provide abroad of the American way of life.

During World War II I remember reading in the papers how American troops had just captured a small town in southern Italy or Sicily, and the American officer in command was asked by the local Italian magistrates what radio stations the inhabitants would be allowed to listen to. The answer was, "Whatever one you feel like." A radio was set up in the market place, to the joy of the inhabitants, and probably this procedure did more to combat totalitarianism than any attempt dictatorially to tune out subversive programs would possibly have done. The American officer in charge took the traditional American approach. Our present visa policy operates too much on another philosophy, one of fear at variance with American tradition.

Think of the bureaucracy which we could have set up if after the Civil War we had tried to keep all Southerners suspected of supporting states-rightism from crossing the Mason-Dixon line, or if, still earlier, after the Revolution we had tried, in the midst of the monarchial controversies of Europe, to exclude as visitors from our shores all those not yet indoctrinated in the American philosophy. We were in danger in those days, too,—so weak the British were able to burn the nation's capital in 1814,—and a better case could perhaps be made for tight screening then than now. For a brief two-year period, to be sure, beginning in 1798, we did have just that in the Alien and Sedition laws, which were repudiated in 1800 and which caused the downfall of the Federalist Party; the hysteria which led to the passage of these short-lived laws is in many ways reminiscent of the present times.

We have spent billions on the Marshall plan, and then we alienate much of the resulting good will by an unsympathetically and woodenly administered visa policy. This situation reminds one of the railroad that lavishes a mint of money on new streamliners and then lets the conductor insult the passengers.

It is a truism that when visas are either refused or almost interminably delayed even for non-communists, psychoses and misunderstanding of our motives often result. It is little wonder that Europeans are sometimes confused about our American concepts of freedom. Communist propaganda is not slow to seize on the opportunity to try to divide Europe by inflaming such irritations and misunderstandings. It has been said that the American critics who complain about the present "red tape curtain" are taking the communist party line—if this be the case, it is because the motivation of loyal American citizens and communists in exposing weaknesses in governmental policy is diametrically opposite.

In contradistinction to the ill-will engendered when visas are refused, there is a positive asset of goodwill and better understanding which is created when Europeans are allowed to visit our shores and see our civilization at first hand. I have talked with numerous visitors, and in most every case their false impressions are corrected in our favor—we are not the money-hungry imperialistic nation represented by the leftist European press or the collection of pompous, predatory, sometimes uncouth individuals so often depicted in the movies, but rather human individuals who wish to live and let live, and who are basically friendly. As one French visitor put it, he was surprised at what he called the "bon enfant" character of Americans.

We Americans need not suffer from an inferiority complex. We are not ashamed of our civilization—it is our trump card, our strongest element of propaganda, to let others see what it is like. I believe we should play our cards in the American, not the Russian way.

I shall not pursue these points further, as no doubt most scientists are in accord with them. What is to be said on the other side? First of all, it should be freely recognized that the need of security and secrecy under the conditions of modern warfare is far more important than a century ago. It is a far cry from McClellan's ill-fated attempt in the Civil War at a landing in Virginia by sea, and other details of Union strategy which were announced in advance in the New York and Washington press, to the secrecy attendant on the landings on V-D Day, whose security, incidentally, seems to me a great tribute to all concerned. Secret information in the hands of the enemy can do inestimable harm. Atomic spy is a catch-word of the popular press. However, it does not seem to be objectively and scientifically analyzed what security risk is associated with the casual visitor to our country—is he going to take back secret information even though he is not admitted to classified areas, is the danger that of the saboteur type, or is it the fear that these visitors would inspire our leftist organizations to be more radical or more effective? These various considerations should be weighed objectively against the other angles that I have mentioned and the balance examined in a hard-boiled way to see how we are most likely to secure peace and security rather than invoking vague, emotional appeals as to the dangers of communism. On one point I want to be clear—our classified information must be zealously guarded. There is dan-

ger that we may be diverted from this if we dissipate our efforts at security on the trivial rather than on the important. For example, we fingerprint both the tourist and the classified worker. The moment we start guarding our toothbrushes and diamond rings with equal zeal, we usually lose fewer toothbrushes but more diamond rings.

It is, of course, because of the horrors of modern atomic warfare that the man in the street is so concerned about questions of security. I have the feeling that physicists are inclined to overlook the very real worry of the average person about the present danger and to attribute all difficulties to a few politicians. Politicians, however, by and large reflect the temper of the people, and many of them, when queried, would no doubt endorse the present visa policy because, as they would say, "we don't want communists snooping around, especially if they're physicists." Obviously more thought is needed about the subtler pros and cons of the situation as it actually exists and what procedure in the long run makes us the most secure. I do not mean for one moment to question the propriety of denying admission to known communist agitators and trouble makers, but I am concerned over the exclusion of many individuals who are instead basically our friends.

Possibly you may react that all this is of too general a scope to be proper material for an address to the Physical Society rather than a general audience. However, with the augmented role of science in national defense, the physicist finds himself in a position of unusual influence at the present time. It is a recognition of his importance that visa applications of physicists are subject to special scrutiny, and as a result the barrier problem is a particularly acute one for us.

What can we do to improve the situation? It seems to me that the following points can be stressed.

1. In our human contacts and in our daily walks of life, use our influence to see that the basic facts are known, and the issues regarded objectively and unemotionally.

2. Urge our European visitors to apply well in advance for visas, and do what we legitimately can to help them. Oftentimes the trouble comes mainly from delay or poor presentation.

3. Do all we can to keep our own house in order. It is a disgrace that we have had the names of Fuchs, May, and Pontecorvo among physicists, and we might as well face this fact candidly. The list of physicist traitors is small, but the damage which they can do is very great. We must bend every effort to see that such cases do not arise again. The task is not easy—a professional spy cannot be uprooted merely by a front page offensive against communism. As I have already said, physicists are at present in a rather focal spot, and for that reason it is important that our conduct be impeccable. "Caesar's wife must be above suspicion." Refusal to testify, granted it is a constitutional right, and unwillingness to state where one stands, are not calculated to win public confidence.

4. Do what we can in pressing for more sympathetic legislation, and for a more rational and mature administration and interpretation of what legislation we do have. I shall not attempt to go into the problem of how much of the present impasse is the fault of legislation and how much of administration. On reading the McCarran Act, I do form the impression that certainly most of our difficulties would not have arisen if it were administered as broadly as the gold clause of our currency legislation was interpreted by the Supreme Court during the depression. Just plain bad judgment and inefficiency are often to blame in many instances where visas have been refused. Many cases can in fact be cited where even under the narrowest interpretation of the law entry should have been permitted. It is indeed ironical that Polanyi, perhaps the most outspoken foe of the communistic mode of thought among all physicists or chemists, should be denied the opportunity for visiting America even temporarily, whereas Fuchs was cleared for our most vital secrets.