here at the University of Wisconsin in Madison. Now any absent-minded theorist may glance out his window (see photo) into the physics courtyard and

immediately refresh his memory about the complexity of SU_3 predictions. The person(s) responsible for this rediscovery have not yet been identified.

ROBERT M. MORSE
University of Wisconsin-Madison
Madison, Wisconsin

12/6/78
Photo

No boycott for South Africa

In August an International Conference (on Dynamical Properties of Heavy-Ion Reactions), supported by IUPAP as well as local sponsors, was held in Johannesburg, South Africa. Earlier, two groups of French physicists had circulated a letter calling for a boycott of this conference because of the racial policies of the South African government. The conference organizers had not been informed of this action; I happened to be the only one in South Africa who, as a member of the International Committee, received a copy of the boycott appeal. I reacted to it by a letter to the two French groups ("A Reply to French Colleagues," 26 March 1978), copies of which I sent to other members of the International Committee and invited speakers. Afterwards I learned that other boycott petitions had been circulated at institutions and scientific meetings in the United States, the Netherlands and Austria, one of which led to an unpleasant incident at the Gordon Conference on Nuclear Chemistry in June. I also understand that scientists from South Africa have been prevented, on political grounds, from attending professional meetings in certain countries. In these circumstances I wish to make the main points of my reply more widely known to the physics community, and to express my personal views in general on boycotts, isolation and discrimination against scientists who work in countries with objectionable governmental policies.

I believe that such actions do not serve the purpose for which they are intended. On the contrary, their effect will be to frustrate or stifle the activities and influence of people who by the nature of their profession are striving to uphold and promote—in however small a degree—cultural and human values. Scientists, as well as other civilized people with this outlook and concern, are opposed to conditions and actions which disregard or endanger these values, wherever they may occur. Many see themselves (as I do) primarily as members of an international community to whose standards and ideals they try to adhere and they regard differences of race and color, national origin and (up to a point) sex, as of minor significance. They cannot support discrimination on the basis of any of these accidental characteristics, and are firmly opposed to any violation or restriction of human rights. Naturally you find such people prevalent in universities and other scientific and cultural institutions—in South Africa as well as in other countries. In my reply I referred to the declared policy in regard to academic freedom and racial segregation, of those institutions with which I am proud to be associated—the Universities of Cape Town and of the Witwatersrand (where the heavy-ion conference was held). Isolation of such institutions and their members from the international community and boycotts of their activities will cut their very lifeline.

Fortunately, most individual scientists from South Africa have so far not been made to feel that they are tarnished by the shadows of the situation and events in their country; they have been enjoying the friendly hospitality of their colleagues and host institutions abroad as much as other foreign visitors and guests. Their views and attitudes are known to their friends; other colleagues would hesitate to identify a fellow scientist with government policies in his country automatically, on the sole grounds that he lives and works there. In view of what I have said before, such identification would be unwarranted, even presumptuous.

In response to my reply, a leading member of one of the French groups has assured me that their action was not directed against the South African physicists as such, but against the possible public-relations value to the government of holding an international conference. If such a meeting is a purely scientific event, unrestricted and open to all, I find it hard to see how its effects could be other than beneficial. For many critics it would be an opportunity to come and see for themselves to obtain first-hand knowledge (as scientists should) about conditions in a foreign country, the intellectual climate in its universities and cultural institutions, the spirit of its academics and students, rather than base their judgment on information from media that normally—say in scientific matters—they would consider unreliable or distorting.

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letters

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For the scientists on the spot the situation in their country is close to their skin, and many feel that it is a bit too easy to voice protests from a distance whilst enjoying the benefits of a liberal society.

In sum, I think that the action of those who call for boycotts of bona fide scientific meetings, or aim at isolation of a scientific or cultural community and their institutions, is misdirected; it hits the wrong people and does little else.

As to the Johannesburg conference, I am satisfied it was not just a pleasant meeting (as most participants will confirm), but a successful venture; there were no political overtones and it was open to all—including (and I resent having to mention what I regard as a matter of course) black colleagues from within the country and abroad. It should augur well for the future of scientific life in South Africa as part of a world-wide organism, *if* the international science community continue to lend it their support and encouragement.

W. E. FRAHN
9/20/78 *University of Cape Town*

Helicopter-blade design

In the article "Thirty years of fluid dynamics" (Sept, page 38) the transient lift of a helicopter rotor blade is presented as an example of how airfoil behavior "cannot" be systematically predicted. Such predictions are of critical interest to the helicopter engineer, since the limiting thrust performance of the rotor can be affected by more than 10%.

As von Karman is supposed to have said "only God understands turbulence," and all prediction methods for turbulent flows necessarily involve empiricism. However, in the case of airfoil transient response, it is possible to understand the basic physical principles with a reasonable degree of clarity, and work has been in progress on this problem for some years. Recently T. S. Beddoes[1] has succeeded in establishing a systematic prediction method for this problem.

An example of the agreement between theory and experiments for a helicopter-blade airfoil is shown in the figure. We are now using this theory at Westland Helicopters to suggest airfoils that will have optimum transient response rather than the usual requirement for high steady lift capability.

Reference

1. T. S. Beddoes, "Onset of leading edge separation effects under dynamic conditions and low Mach number" in American Helicopter Society Annual Forum 1978, No 63.

M. V. LOWSON
Westland Helicopters Limited
11/8/78 *Yeovil, Somerset, England* □