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March 24, 2000

Symposium on "Strengthening the Biological Weapons Convention:
International cooperation and exchanges in the field of
biotechnology" United Nations.

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The two co-chairs have enumerated basic problems with which I wholeheartedly agree. Particularly Ambassador Toth's remarks about ICGEB and I'm glad Dr. Falaschi is here to expand. So I will be brief and speak to general principles.

I have been personally engaged with the scientific study of microbes, and what we now call biotechnology, for almost 60 years. It is hard to overstate, and probably unnecessary for this audience, the scientific and technological accomplishments of that enterprise. This morning's newspapers gave news that the entire genome of the fruit fly, *Drosophila*, had been sequenced. From here it is a very short step to do the same for the human, and there is a predictable expansion from the structural sequence to an eventual total understanding of the functions of these genes, their integration into the organism, and a deep philosophical cum technological understanding of the roots of life, from microbes, to food plants, even to human nature.

[about 30 bacterial species and about 100-1000 viruses.] Our interventions will be limited by our ethical and social restraints, not by technical bounds. They are already having profound ramifications in agriculture and medicine, and in turn to the global economy. Coupled with similar revolutions in physics, informatics and communications, we have the convergence of $E=mc^2$ // DNA and all at the speed of light.

Plainly we are facing the gravest choices, whether these immense powers will result in misery, even extermination, or common human benefit in a new economy coupled with a new democratic polity.

To my mind, the gravest threat is posed by the abuse of microbiology as a weapon turned against human health and survival -- that is to say by biological warfare. The promulgation of the BWC, coming into force in 1975, was a great advance in institutionalizing a moral code that -- all sentimentality aside -- is indispensable for the viability of states, nations, peoples, even us individuals sitting in this iconic place. Great states have managed an uneasy equilibrium, both through the globalization of economy, and the mutual deterrence by display of other weaponry: they have so much to lose that war is not an attractive option in symmetrical or near-symmetrical situations, even with deepseated provocations. Passions run deeper in ethnic and other internal conflicts; and smaller states may be tempted to resort to a spectrum embracing terrorism, and eventually bioterrorism, as a means of evening the score.

This is a grave danger far beyond the theater of conflict: BW will be infectious in both a biological and a political sense if it is not checked from the start, as a violation of the fundamental code for human survival. Else we face the prospect that individuals, politically motivated or merely psychopathic, will wage war with deadly effect against states, indeed literally against civilization.

In my view the enforcement -- and I see that as even more critical than verification -- of the BWC must then also depend on a mobilization of biomedical science for human benefit that transcends short-term parochial advantage. Article X was crafted with this aim: its most immediate manifestation would be a concerted global campaign -- let us say 10% of the national budgets for health R&D should be devoted to cooperative efforts to defeat the global infectious killers like tuberculosis, malaria, AIDS, and the culmination of childhood immunization programs that have already done so much. Much of this work would be done at existing national academic centers; but these also involved in concerted training and collaborations with intergovernmental bodies, with ICGEB, (which I fully support, and have had long served on its SAB) with WHO-led special programs, and of course with many in-country efforts where these research advances will have to be applied.

Pharma and sensible incentives.

Rationalization of testing - now consumes \$100's MM.

Decisional challenges re: eradication

.... will we be safe?

I addressed these same issues in arguing for the BWC before the UN's CCD in Geneva in 1970. Most of the techno-scientific forecasts I made 30 years ago have materialized, indeed some of them accelerated by the other technologies of computers and automation. I was wrong in one particular: it was not Lassa fever but HIV that emerged from the forests to overwhelm us with the most recent pandemic. I hope we can stay on the same positive track, but with renewed vigor, as representatives of the world community.

--- Followed by August 5, 1970 statement to CCD, Geneva