

Three-dimensional study of protein structure

By PHILIP GILLON

PROFESSOR Christian Boehmer Anfinsen, a biochemist in the National Institutes of Health, Bethesda, was made an Honorary Fellow of the Weizmann Institute this week, "in recognition," as his Scroll put it, "of his outstanding contributions to molecular biology, particularly in the field of protein structure and function." He arrived at the Institute three weeks ago, together with his wife; he is to spend several months here working with Professor Michael Sela.

Molecular biology was very much in fashion a year or two ago, I say, when we expected it to provide us with solutions to many problems, including the secret of life.

Tall and soft-spoken, with his height and looks indicating his Norwegian origin, although he was born in America, Professor Anfinsen looks dubious. "Molecular biology covers a lot of other disciplines: I call myself a biochemist trained in aspects of chemistry and biology. Some people seem to think that the most important discoveries have already been made in molecular biology, that the double helix wrapped it up, but I think that it just opened up an enormous field for us."

What is his particular interest?

"I'm concerned with protein structure. The aim is to understand how macromolecules work in terms of three-dimensional structure. The genetic code determines what the linear code will be; this is translated into three dimensions. Since the development of X-Ray crystallography and computers, we have been able to study this three-dimensional structure.

"A very exciting development was the discovery of ways to synthesise macromolecules. Now we are engaged in what you may call molecular engineering. We look at the structure of an enzyme, for instance, and if we see a loop in the chain that doesn't seem to be doing anything, we see what happens if we chop it off. We say, let's synthesise this without

Jerusalem Post 1/4/70
number of friends here. Michael Sela came to work with us in Bethesda in 1956, and I enjoy working with him very



PROF. ANFINSEN

much. Perhaps one of the main attractions Israel has for me is because of my Norwegian origin — I still have many ties with Norway, although I was born and brought up in America. Like Israel, Norway is a small country, but an energetic one; even the language sounds something like Hebrew.

"Of course a major attraction is the quality of the work at the Weizmann; it is one of the four, five or six places

in the world where one naturally thinks of spending a Sabbatical. It is really a phenomenon, as well equipped as most American institutions — everything I have at N.I.H. is here, in some respects the Weizmann may even be better off than many American institutes. The computers are phenomenal."

Science-based industries have become the vogue in Israel, and some people are alleging that the Weizmann people should come out of their ivory towers down into the marketplace.

"Applied science has to come from basic science — you have to have some science to apply. The ideal is to have both. And to keep them separate."

Science-based industries do not attract Israeli scientists in the same way as basic research; there is a sort of snobbery.

"I have heard that Israelis want to remain in academic life. In the U.S. people tend to move about more than they do here, they go from the academic life to industry and back again. Of course, there are more opportunities in America. I think that applied science is perhaps better for a man who is getting a little older, who is losing the drive and push needed to tackle new problems. The going gets tougher and tougher as the years pass."

But, fundamentally, you do not think that the Weizmann Institute should change the course it has taken for the last 25 years, should become more practical?

"Why change something that has brought so much prestige to Israel, that puts a small country among the world's leaders in science?"