FROM THE EDITOR'S DESK

science and the salesmen's art

Between "life in the test tube" and "the first successful synthesis of viable DNA" there may be only a semantic difference. They are both phrases employed by the National Institutes of Health, justifiably proud of having supported a significant piece of research—the synthesis of replicating DNA by Dr. Arthur Kornberg and others at Stanford University.

Dr. Kornberg himself said, in answer to a question about what he had done, "You can call it a simple form of life if you want to."

He obviously didn't want to; most journalists did and the public Dec. 14 and 15 was greeted by headlines reading, "Life Created in Lab Test Tube," and "Scientists Create 'Molecule of Life'."

Dr. Kornberg's work is indeed significant. He refined an enzyme that could create from off-the-shelf chemicals a functioning, viable replica of natural DNA. It was a natural, if not inevitable step, in the chain of related steps that have always characterized science.

But there are few single developments, in the logical progress of basic research, that are hailed as "awesome" by the President of the United States, and a "landmark achievement" by Dr. James A. Shannon, the director of NIH.

What is awesome, in fact, is the acclaim with which Dr. Kornberg's work was greeted. Its publication in the PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES was accompanied by press releases by Stanford University and the Academy itself, and statements issued by the White House and Dr. Shannon's office.

This acclaim may not be unjustified; in fact, it has been said, it is only when a society builds massive public monuments to its scientists and scholars, rather than its soldiers and statesmen, that it can be said to have become truly civilized.

But we suspect that it does not diminish the significance of Dr. Kornberg's contribution to understanding of the life sciences to suggest that the massive outpouring of publicity that accompanied this particular development might not have been wholly ingenuous.

Are the accolades in fact a reward for the meticulous effort that went into this one achievement?

Or do they represent a more cynical juncture of science and public policy? They come at a time when Dr. Shannon has just emerged from a scathing session of Congressional controversy over his fiscal 1968 budget, and is trying to save what he can from Federal planners drawing up next year's budget and more concerned with the costs of Vietnam than with scientific research.

Science itself is a complicated process. So is the public administration and support of science. When the two mix, as they apparently have in the present case, public awareness of science may be enhanced by the salesmen's art, but balanced public understanding of either process, in perspective, is bound to suffer.

Science News' editor and Dr. Kornberg are unrelated.

SCIENCE NEWS
OF THE WEEK

Viable Synthetic DNA

Eleven years' effort brings success and wild acclaim

Enthusiastic news reports that three California scientists created a man-made molecule of life's basic genetic material raised at once the spectre and the promise of man's eventual control of his own heredity.

Headlines proclaimed life in a test tube. There were predictions that future generations will see mankind make exact duplicates of its geniuses, that the secret of cancer is near disclosure and that a remedy for inherited diseases will be the next research step.

Though there may be an element of probability in these forecasts, there is no element of immediacy, and the scientists involved said so. Nevertheless, disregarding all the exaggeration, the first synthesis of a biologically active molecule of DNA (deoxyribonucleic acid) is a major event. After 11 years of research on DNA synthesis, Dr. Arthur Kornberg of Stanford University produced in a test tube a totally artificial copy of a type of DNA virus; the copy is every bit as infectious as its natural counterpart.

The DNA core of a virus is the portion of the molecule that attacks and destroys living cells while using their genetic machinery to make copies of itself. The synthetic viral DNA Dr. Kornberg created comprises, in effect, man-made genes. He was assisted by Dr. Mehran Goulian of the University of Chicago, formerly of Stanford, and by Dr. Robert L. Sinsheimer of the California Institute of Technology. They report their success in the December PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES.

The particular type of viral DNA (called Phi X174) the researchers made is an extremely simple molecule of only five or six genes. Their achievement, however, lays the foundation for eventual synthesis of more complex DNAs —such as those in human cells—by