16-JUL-75 21:09:19-PDT,1920;000000000000
Date: 16 JUL 1975 2109-PDT
From: SMITH
Subject: WIPKE'S PROPOSAL
To: LEVINTHAL
cc: LEDERBERG, FEIGENBAUM, BUCHANAN, SMITH

CARL'S COMMENTS WERE BRIEF AND TO THE POINT. HE THINKS THE RESEARCH IS IMPORTANT TO CHEMISTRY, THE COMPLEMENTARY NATURE OF OUR WORK WITH HIS IS AN IMPORTANT BENEFIT, AND THAT THE APPLICATION SHOULD BE SUPPORTED.

I WILL EMBELLISH THOSE COMMENTS BRIEFLY. THE FUTURE OF AI (OR SEMANTIC INFO. PROCESSING, OR NON-NUMERICAL METHODS OR WHATEVER YOU WISH TO CALL THEM) APPLICATIONS TO CHEMISTRY IS QUESTIONABLE, BUT POTENTIALLY VERY IMPORTANT. FUNDING DICTATES WE ATTACH A BIOMEDICAL RELEVANCE TO THIS WORK, WHICH IS EASY BECAUSE OF THE MANY INTERESTING PROBLEMS IN HEALTH-RELATED FIELDS.

WIPKE'S PROGRAM, I THINK, IS THE MOST GENERAL AND POTENTIALLY USEFUL OF THOSE SYNTHESIS PROGRAMS WHICH HAVE BEEN WRITTEN. IT'S AVAILABILITY ON SUMEX WOULD NICELY COMPLEMENT OUR WORK. THERE IS CONSIDERABLE ROOM FOR COLLABORATION AND WIPKE HAS BEEN MUCH MORE REASONABLE ABOUT SUCH PROSPECTS THAN IN THE PAST. IN FACT, WE HAVE ALREADY DISCUSSED ONE SUCH TOPIC, THAT OF DRUG DESIGN, AN OLD FIELD WHERE SOME NEW IDEAS ARE BEING TRIED.

THERE ARE OTHER, MORE PRACTICAL REASONS WHY SUPPORTING HIS APPLICATION MIGHT BE A GOOD IDEA. BETWEEN OUR GROUPS WE WOULD BE WORKING ON PROGRAMS WHICH CAN ASSIST CHEMISTS IN TWO OF THE MAJOR AREAS OF CHEMICAL ENDEAVOR. THE FAR-FETCHED IDEA OF USING DENDRAL PROGRAMS TO SUGGEST STRUCTURES AND A SYNTHESIS PROGRAM TO SUGGEST SYNTHESES TO VERIFY THESE STRUCTURES WOULD BECOME A REALITY. SUCH PROGRAMS WILL NOT FIND A HOME IN THE PROPOSED NATIONAL CENTER FOR COMPUTATION IN CHEMISTRY, IN ALL LIKLIHOOD. I THINK THAT HAVING SUCH A CONCENTRATION OF THESE PROGRAMS AT SUMEX MIGHT MAKE POSSIBLE FINANCIAL SUPPORT FROM AGENCIES OTHER THAN NIH.

LET ME KNOW IF YOU WOULD LIKE ME TO BECOME MORE SPECIFIC ON ANY OF THE ABOVE.
DENNIS