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Approved For Release 2003/05/14 : CIA-RDP78B05171A000600070025-0

STAT [redacted]

APR 23 1969

Memorandum for the record

Progress Report

The zoom 70 has been received and has been coupled with the laser measurement device by means of a microscope cover glass inserted in a specially constructed eye piece. It appears as if the system will work extremely well. The subject sees the laser pattern superimposed on the field of the microscope and can readily discern movement of the pattern with this arrangement. At present, we are mounting the drum assembly from which the laser pattern is reflected on an electrically driven optical bench. The subject can null the pattern motion by appropiately positioning the optical bench.

I am enclosing a translation of an article by Yves LeGrand on negative accommodation. This article suggests that maximum relaxation of the lense is not attained simply by looking at a distant object, but that by means of a supplementary effort, additional flattening of the lense can be achieved by at least some of his subjects. I should add that recent experiments in our laboratory on the effect of hypnosis on improvement of acuity in myopes have been positive. Subjects were told to relax the muscles around their eyes since that this was known to improve their acuity. A non-hypnotized control group consisting of suggestible subjects produce the same results, while the same instructions had no effect on a second non-suggestible control group. Whether these changes are due to a change in refractive power can be determined by means of the laser technique.

STAT Assuming that the laser technique works according to our present expectations, it might be desirable to combine this method with the proposed

STAT experiments at [redacted] pointed out that the reaction time for a change in accommondation seems to be fairly consistent at 0.4 second. Although we are not certain at this point, it may be that recognition of the movement of the scintillation pattern may take a longer time. This suggests that it would be advisable to superimpose the laser pattern in the subjects field of view while simultaneously recording changes in

STAT his accommondation states with the [redacted] device. This could easily be accomplished during the proposed experiments at [redacted] and would serve to validate the laser method. STAT

STAT [redacted]

Memorandum for the record

STAT [redacted] 21 April 1969

STAT I informed [redacted] of a conversation I had with [redacted] regarding STAT
STAT the present status of the [redacted] contract and the proposed arrangement with him. He indicated his continuing interest in the project and desire to participate
STAT in the [redacted] studies. However, he does have a time limitation problem this summer. During the first three weeks of July, he conducts an intensive course in refraction which completely utilizes his available time. He will be available, however, during the last week of June or the end of July.

He reiterated the advisability of making contact with [redacted] STAT
STAT [redacted] STAT
STAT He pointed out that [redacted] was one of the most outstanding students to graduate from Washington University and is particulary interested in microscope research. At his suggestion, I plan to contact [redacted] in the near future. STAT

We also discussed the development of the laser scintillation technique
STAT for determining refractive status. [redacted] feels that this method will in the long run prove superior to the infrared technique. This prediction is based on the fact that the laser method can be superimposed on the PI's task at irregular and unexpected intervals thereby sampling his accommodative state during a working situation.

He suggested that the AC/C ratio be determinded for each subject and predicted that those with either high or low ratios would have the most difficulty using the binocular microscope. He also suggested that varing amounts of divergence and convergence be imposed upon the operators as part of the experiment. He suggested that the [redacted] rod be used to STAT evaluate the phorias of these observers.

We plan to continue with the application of the laser method to the zoom 70 microscope. If in fact the inital results confirmed to our expectations, the subsequent experiments will be planned with [redacted] STAT advice.

APR 23 1969

STAT [redacted]

Memorandum for the reocrd

STAT [redacted] during the Sarasota meetings.

STAT [redacted]

STAT [redacted] At the moment, he is particularly interested in the evaluation of night vision devices. One of the serious problems that he has encountered with this device is that of instrument and/or night myopia. [redacted] STAT is responsible for our initial contact with [redacted] which STAT subsequently led to our interaction with [redacted] STAT

STAT [redacted] has thought about and worked on the periphery of this problem for many years, not only with respect to night vision devices, but also with respect to tank drivers. He is quite interested in our work and asked STAT if he could visit [redacted] sometime in the summer or fall. It would also be desirable, I feel, for sponsor's representatives to visit the STAT [redacted] sometime after Harker returns from his current leave of absence which terminates at the end of June 1969.