

U. S. ARMY CHEMICAL CORPS RESEARCH AND DEVELOPMENT COMMAND
U. S. ARMY CHEMICAL RESEARCH AND DEVELOPMENT LABORATORIES
ARMY CHEMICAL CENTER, MARYLAND

IN REPLY REFER TO:

CMLRD-CR-T(AC)

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Lt Col W. J. Schneider, VC
Veterinary Staff Officer
Combat Development Group
Brooke Army Medical Center
Fort Sam Houston, Texas

Dear Colonel Schneider:

I have some things in mind regarding the use of animals for unconventional warfare purposes mentioned in your letter of 26 July 1961. At the present time these Laboratories are not conducting any research in this area. Quite frankly, I feel that there is considerable reason to justify a feasibility study to instrument animals (dogs) for irregular warfare purposes such as detection of gases and the actuation of gas alarm systems and telemetering of radiological activity in suspected contaminated areas.

No known back ground of research exists on the use of dogs for detection of radiation emissions. It is known, however, that by shielding the spleens of animals with lead, they can withstand from 100 to 500 times a lethal dose of radiation as opposed to those which are unprotected. The anatomical position of the spleen in the dog allows for an easy protective approach to this area. Consequently, a protected dog with capabilities to respond remotely to sound frequencies above that of detection by humans could be guided into a suspected area of potential radiation hazard to survey or monitor the intensity prior to commitment of troops.

Dogs are known to be capable of detecting gases in concentrations far below those detectable by the human and certain chemical detector kits. Certain capabilities are indicated and on file in these Laboratories as OSR&D Report 493, 31 March 1942, Detection of HS, M-1, ED or POA with Trained Dogs and Rats, and Informal Monthly Progress Report, dated 15 May 1944 (file 103.3) Field Training of Dogs to Detect H Vapor in Air (Distances and Accuracies of Detect).

My method of approach would include; first, conditioned reflex experiments to train animals to give some regular reaction response to a CW agent stimulus; second, the neuro-anatomical research for determination of physiological and psychological capabilities of animals to carry miniaturized instruments, such as transistorized radiac detection devices for accumulative and differential determination.

Remote control of conditioned reflex animals should follow the lines of providing stimuli by radio waves directed to the efferent centers of the brain in which permanent implants of microelectrodes have been made. Pick-up data could then be relayed back via transistor transmitter to actuate remote alarms system or data processing equipment.

In specific reply to your query on whether substances are available that would mask certain detection senses of the dog, I can cite one laboratory experiment conducted here during World War II by Lt Col Don Mace in which dogs were conditioned to detect mustard gas vapors. When the dogs' eyes were protected with Bal Ointment, they were incapable of detecting mustard gas vapors for approximately 8 hours after the use of this protective measure.

Should this same idea of masking one or more of the normal senses of dogs be carried over into that of the higher animal, man, and found to be successful, I believe you will agree that it would not take much scientific acumen to realize the psychological advantage such an aerosol agent would have on opposing military forces.

With kindest personal regards, I remain,

Sincerely yours,



KENNETH F. BURNS, Lt Col, VC
Chief, Animal Colonies Division
Directorate of Technical Services