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Dimitri Rebikoff

Director, Rebikoff Institute of Marine Technology

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RETRAINING OF AEROSPACE ENGINEERS AND TECHNICIANS FOR CAREERS IN OCEANOGRAPHY

Dr. Dimitri Rebkoff
Director
Rebkoff Institute of Marine Technology

Unfortunate as the decreasing need for Aerospace Engineers and Technicians, (and for that matter, competent Management) may seem, it can be construed more as a blessing to what is now referred to as the New Frontier of Exploration, the seas of the Earth, its oldest, and most neglected feature!

Uniquely trained to the highest level of group competence in Mankind's known history, the Aerospace Team and its unprecedented achievements may now be turned to the more local, earthbound needs now seeking resolution, but insoluble without intensively trained personnel.

You, here before me, represent the very inner core to the ability of science to solve the mysteries and challenges of the seas, to rescue them from Man's ill-considered Pollution, and to perform tasks never before necessary, but which, because of Industry's technical capability in the name of Progress, have been thrust upon us, worldwide, without the training of workers and Managers to contend with them.

We shall see, here today, what some of those tasks are, and identify the calibre of men (and women) needed for their performance, in Slides and Motion Pictures. In the past, Survey and Salvage Divers were the only ones capable of supporting the "WET"

Oceanographer, either Surveyor, Archaeologist, or Analyst. Such Divers were, and are, pitifully few, so new methods had to be designed to train others to perform those jobs more rapidly and effectively. I have designed such methods, and that shall be the subject of my discussion here today.

Let me say, first, that it is a far simpler task to retrain a qualified Engineer or Technician to function outstandingly in Oceanography, than it is to try to train a Diver to be an Engineer or highly-skilled Technician or Manager!

A few years ago, I moved my U.S. operations, which continue to function in conjunction with REBKOFF activities in Great Britain and France, to Brevard County, and, in that move, discovered that vast potential for the needs of Oceanography lying dormant, but perhaps someday available, in the magnificent Aerospace Team. I believe that that "someday" is now upon us.

An intensive course in those talents most needed in the field of Ocean Sciences would take from four to eight years of continuing instruction, with the active aspects of underwater surveys requiring a very minor portion of that time. Most or all of this audience undoubtedly surpasses in competence our minimum needs for your specialties,

or you could not compete in the jungle of Aerospace. Other agencies, and your personal ability to learn, have given you qualities and knowledge which you can now put to almost immediate use, with very little additional retraining.

The REBIKOFF Institute of Marine Technology, recently opened within this County, is fully equipped to do this retraining quickly, and is the only place of its kind where such training is available. We are not a Diving School, nor can an incompetent person participate in our courses. Our class capacity is low, and we can be quite selective who we accept for training by a Faculty and guest Lecturers of the utmost ability.

The need for such a school exists because the adaptation of an otherwise untrained Diver to our needs is totally impossible at present, and because the very well-trained Aerospace Team is generally useless in the evaluation of the correctness of Underwater Operations, unless and until he thoroughly knows what must be done, what is being done, the function and method of use of highly specialized, expensive equipment provided for the task, and has ability to analyse and lucidly report on the photographic and other results of the survey undertaken. As with Apollo, new systems must be devised and implemented for efficiency and strict cost-control in such operations, new or revised Specifications will be required, highly effective Management Staffs are required, and above all, keenly-honed mechanical, optical, and electronic Technicians are needed in great numbers, along with mixed gas and hydraulic specialists. So, you see, it is quite like the Space Program, after all, ex-

cept that a few new things must be learned by all of you. Part of your overall team, the Astronauts themselves, actually do the flying, but all of you must generally know how it is accomplished, and how to recognize, what do you call them?...

"Glitches", when they occur, and immediately investigate and correct them. As with Spacecraft, some "onetime" or single failures can be catastrophic, must be anticipated, and prevented by appropriate equipment maintenance, safety measures, (which are of the utmost importance), and tight supervision at all times. As with Aerospace, not all of the Team involved in Underwater work "flies", but all have extremely important places in the activity. So, then, not all, or even many, of you will work underwater, but all of you must know how, and with what, such work is done. That is the only purpose of my Institute... to teach how to do it properly and safely, how to supervise the underwater activity, though not necessarily participating in it, and what the specialized equipment is and how to maintain and preserve it. In only 7 weeks!

Knowing, then, that a task exists which urgently needs your caliber of person, that equipment exists to perform the necessary tasks of excavation, survey, photography, photogrammetry, salvage and Motion Picture making, and that training is available to make use of your existing talents, now, to adapt you to these new tasks, let us take a look at some of them, to stimulate your sense of adventure!