STS Alumni Speak

By Dr. MARINA P. MEYERS

STS's First Girl Grand Scholarship Winner, 1942

➤ TWENTY-FIVE Science Talent Searches ago I was at a banquet very much like this one only minutes away from learning that I was to be one of the two top winners of that year. As I have talked to the winners over the past few days I have been asked many times what it was like then and what changes have taken place in the Science Talent Institute since.

The people involved are very much the same. There are many members of SCIENCE SERVICE and Westinghouse who were with us then and are here again tonight and the winners themselves are a group very much like our own. But everything else is quite different. The first Science Talent Search was planned on the spur of the moment and announced only a few months before the end of our senior year, and the Washington trip was held in the middle of the summer when our college plans were already complete. I had already started as a freshman in the summer term at N.Y.U., and I had to take time off from college to be here.

When we arrived in Washington we were met at the station by a bewildered delegation from SCIENCE SERVICE who looked as though they had no idea as to what to expect but were prepared for almost anything. The tests and judging were similar, but although most of us had done scientific work of one sort or another there were no formal projects as such. There would have been no time to get ready, and in any case, no place to put them. It was problem enough to find where to put us. Space was hard to come by in war-time Washington on short notice. We ended up staying at a very small and old hotel called the Martinque which we just about took over, but even so there was no room to spread out. Even beds were short and I had to share one with another winner. The entire Institute was supposed to take only 3 days which as you can well imagine was not nearly enough.

After the awards had been announced there was still so much to do that the two top winners were asked to stay over for another couple of days. So Science Service wired my parents about the change in plans. Now at that time the Western Union station at home was in a back corner of a small store in the middle of the village and when the message was received it was read with great interest, judged to be in the public domain, and the news was quickly passed around to all present.

In the resulting excitement no one remembered to deliver the message to its destination. Late the next morning when I called home the telegram had not yet been received and my father and mother were among the last to (Continued on p. 190)

By LT. COL. P. E. TESCHAN, MC, USA

STS's First Boy Grand Scholarship Winner, 1942

➤ I FOUND this invitation to talk about the meaning of the Science Talent Search for my life to be irresistible. And in the limits of time, therefore I would like to address these remarks principally to the 40 winners—so the rest of you are on your own for a few moments!

Quite logically I am sure you find, as I found, this Science Talent Search experience to be a sort of scientific confirmation, a validation of your hopes, that should you choose for a career in science, it will be a live option for you. After a national competition on this scale, your success makes it a live option indeed!

For me the influence of the Science Talent Search was quite simple: It made my education possible—through college and into medical school. Those were perhaps less anxious days for parents and students than these are, with less pressure about what college to choose, what major to select, what postgraduate training to get, when to specialize—although I decided for medical research since the seventh grade.

At any rate I chose a liberal arts college—Carleton College in Northfield, Minnesota, to be exact--and there was introduced to the profound difference between training (which is what postgraduate work toward a job in science is mainly about) and education. My narrow horizon was blown open, as it were, to reveal newer dimensions for a career in science that I hadn't seen before. Perhaps they may be of some value to you as well.

The first one we might call a longitudinal historical dimension. It was in a philosophy course that I discovered that human beings have not always apprehended reality in the universe as we do. Weighty authorities had held tenable alternate views to what I knew to be real and important: and that was a jolt!

It appears that our thought, scientific or otherwise, exists in a longitudinal or historical dimension, with origins, diversity and destiny, but always in flux. And how we perceive reality may depend on the notions we have and the techniques we use when we search it. Later in medical school someone wondered aloud how different a system of medicine we might have if the blood enzymes, hormones and vitamins had been measurable before the blood urea, chloride, bicarbonate and glucose!

In medical school another dimension appeared in which a career in science is lived—as it happened, I was gently introduced to it by another medical student-who changed her name to Teschan shortly thereafter.

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Questions

PHYSICS-What new ing for the use of plutonium 238? p. 181.

OCEANOGRAPHY—Why do some oceanographers believe the African and American continents have remained in place for the past 25 million years? p. 184.

TECHNOLOGY - What is "dual beam interferometry by wavefront reconstruction?" p. 190.

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Biologist Top Winner

(Continued from p. 179)

crosses that clearly indicated direct or indirect contact with Christian influence, an idea contrary to the accepted history of the area.

Widely interested in activities both in and outside of Theodore Roosevelt High School where he is now a senior, Kevin hopes to continue his education at McGill University with plans of

teaching paleontology.

The attractive, blonde, female member of the scholarship quintette, Linda Powers, gives every indication of achieving her dream of earning a doctorate in photochemistry, after undergraduate work at Duke University, and then teaching and doing research at a university. In addition to her exacting work demonstrating and amending a tentative theory of color change in organic chemicals, she has designed and built rockets, testing for best fuel concentration (the most successful went 250 feet up, landed 500 yards away); has built a lens and scope to experiment with light; has studied the environment and metabolism of seahorses; and has built a laboratory in the family basement, utilizing the vacuum cleaner as a ventilating device.

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She is a senior at Woodrow Wilson High School.

Larry E. Morse, 18, of Dayton, Ohio, was given a \$250 Westinghouse Science Award and named first alternate to the \$3,000 scholarship, and Mary Lou Silkworth, 18, of Amityville, N.Y., was designated second alternate and presented with a \$250 award.

In addition, nine girls and 24 boys received the \$250 Westinghouse Science Award in recognition of their top level ability and promise as creative scientists of the future.

• Science News, 89:179 March 19, 1966

Dr. Meyers

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learn the news the whole town was talking about already.

But these are rather trivial matters to be speaking of when in the last 25 years all science and the world itself has changed so much. I have tried over the last few days to pick out only one great change which impresses me most of all and is most pertinent to the concept of the Science Talent Search. I have decided that it is the marked difference in general public attitude toward science education at the secondary school level.

When I was in high school we were not expected and not particularly encouraged to have an interest in theoretical science. If by some chance such an interest happened to exist it was taken about as seriously as Buck Rogers on the radio. Perhaps it was not as bad as all that. Science Service had already been in existence for twenty years. There were science fairs in New York, science clubs existed here and there and in a few schools science was emphasized and well taught. Always then were the individual dedicated teachers like the high school chemistry teacher Dr. Seaborg credits with his own interest in his field, and like the biology teacher who convinced me to take the Science Talent Search examination. But these were the exceptions.

By and large I think it would be fair to say that science was segregated in the universities and left pretty much to the professions. There was very little we could do in high school beyond taking the three standard courses in elementary physics, biology and chemistry. If we wanted to do some outside reading we could go to the library and find books on history, literature and the arts, but except in the largest schools the science shelf was likely to be limited to a few handbooks on nature study. I saw few science books before I got to college and these few had to be obtained by mail through interlibrary loans or were college texts loaned to me by my teacher.

It has been much easier for the Silver Anniversary group. Your projects show that you have had encouragement, help, materials and equipment to work with that would have been unheard of in 1942. In addition, about half of you have already had experience with science beyond the high school level, in summer institutes, college courses or scientific summer jobs. Such opportunities were rare indeed

In the TV forum which some of you taped a point was brought up about the necessity and at the same time the difficulty of educating the general public in scientific matters. This is not an easy problem, but I think that the very fact that such a program can be broadcast—that there is enough public interest to make a forum on scientific matters possible is a tremendous step in the right direction. There are many people still who are not quite sure what you are talking about but they at least give you a measure of serious interest and respect that would have been unusual in 1942.

In a few minutes now we will know who gets the top awards. But, however that turns out, you are all already the winners of something more valuable than the largest scholarships. Doors have already been opened to you which we would hardly have dared approach 25 years ago. And while you are winners, you are all also in a sense contributors to what you have won.

By your very presence here, and by exhibiting and explaining your projects, you have once more brought to the attention of the public the importance and the possibilities of science at the secondary school level. In 1942 when the telegram about my scholarship was read and passed around by the local people who would be voting in the next school board election something was started which you are continuing today in ever increasing measure.

• Science News, 89:180 March 19, 1966

MEDICINE

Brain Cancer Treated By Pocket-size Pump

➤ A 16-YEAR-OLD girl with brain cancer who was formerly unable to get out of bed is up and about, leading an almost normal life as a result of drugs constantly dripping into her bloodstream from a pocket-size pump.

Doctors at the Lahey Clinic, Boston, have treated the girl since 1964, following up a technique that has been successful with liver cancer patients. Dr. Elton Watkins Jr. in 1959 designed a portable pump for ambulatory liver cancer patients, who could carry it in a coat pocket. It was wound daily like a watch and carried a five-day supply of drugs in a disposable, replaceable

Brain tumors are being treated very much as the liver cancers were. The pump drips the anticancer drug into either the carotid artery in the neck or the vertebral artery serving the cancerous area of the brain.

The American Cancer Society reported the research on brain cancer by Drs. Robert D. Sullivan and Wladyslaw Z. Zurek, with Dr. Watkins, all of the Lahey Clinic Foundation.

• Science News, 89:190 March 19, 1966

Col. Teschan

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Perhaps we can call this personal dimension and illustrate it like this: As scientists we are expected to think, to reason, to analyze, to synthesize, to create—but there is such a thing as overdoing the intellectual bit, even to become an overblown caricature of a depersonalized, disembodied brain. Since we are stewards of other talents and endowments than merely intellectual ones, we should expect also to live, to love, to savor, to experience the non-quantitative, to be in relationship with other persons—deeply and fully. The zest of the intellectual chase is great, but don't cut the fuel mixture too thin!

If there is a historical and a personal dimension, there is also a social dimension. Last year in Viet Nam our Medical Research Team was studying the impact of our early attempts at medical care among such population groups as the Montagnards of the Central High-lands. On one of these trips I had occasion to visit a number of the sick in Jarai tribal village near Pleiku. One patient in a smoky, reed-matted hut on stilts was gravely ill with pneumonia, grossly dehydrated, with a high fever. She needed the antibiotics we could give her; but she also needed mineral and fluid replacement—how to do that?

Down in the village an ox had just been sacrificed. We had seen parts of it in a grayish soup boiling in large cauldrons set over charcoal fire-pits in the ground. Here was a sterile, mineral-rich source of the fluids the patient needed, and we prescribed accordingly.

We were astonished in the experience; we were not really prepared for it by training: After all how many of

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the patients in your ordinary acquaintance or mine really live in the Stone

Now while this may be a rather vivid example, it is nevertheless true in medicine and increasingly in other disciplines, that concepts and technologies are increasingly being developed and applied in societies and places different from our own. The successful defense of our own society may just conceivably depend at least partly on just such efforts. This is a social dimension, then, as scientific activity increasingly occurs and scientific careers are increasingly lived, immersed rather than apart from society.

So it may be that you will see your career in science in the historical dimension, a personal dimension, and a social dimension—in a world that is far smaller or larger-depending on your view of it-than perhaps we dreamed, or at least than I dreamed at launching time here 25 years ago.
Science News, 89:180 March 19, 1966

Dr. Seaborg

(Continued from p. 182)

contemplate the bombardment of uranium with uranium ions.

A particularly exciting possibility is that isotopes with about 126 protons and 184 neutrons, corresponding to closed nucleon shells—that is, isotopes like the one with the atomic number 126 and the mass number 310-will be sufficiently stable to make discovery and identification possible. Thus it can be seen that there are prospects for continued exciting advances in the field of the transuranium elements.

In observing the 25th anniversary of both the Science Talent Search and the discovery of plutonium, it is interesting to note that the Westinghouse Corporation has played a leading role in finding and nurturing scientific talent and in furthering the peaceful uses of nuclear power.

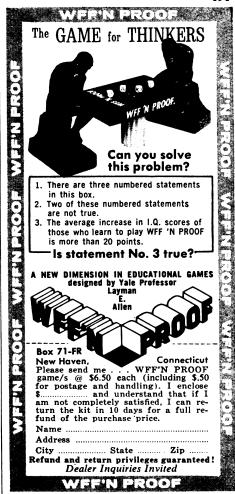
The Science Talent Search, developed by SCIENCE SERVICE, is, of course, financed by the Westinghouse Educational Foundation which also makes possible the scholarships and awards granted to the young scientists dis-

covered by the Search.
On the other hand, Westinghouse is also a pioneer in the nuclear power field, being one of the major developers of nuclear power reactors in the world.

Tonight I am sure there are many of us who wonder what the next twenty-five years will bring and whether we will gather to observe such anniversaries on a similar evening in 1991. I believe we will. And I think we will have good reason to celebrate them with success and joy.

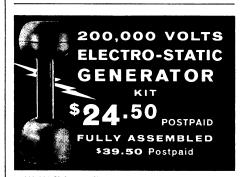
I look forward to the challenges ahead, hopeful that the young men and women of science will accept them, triumph over them, and carry on in the tradition of the Science Talent Search winners here tonight and at work throughout the country

Science News, 89:181, March 19, 1966



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