

SEM History

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William R. Campbell
SESA President 1958-59
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Perusal of early volumes of the Proceedings of the Society for Experimental Stress Analysis reveals only a small part Bill Campbell's SESA history. He joined the Society in around 1951 while he was working at the National Bureau of Standards, and presented a paper entitled, "Determination of Dynamic Stress-Strain Curves from Strain Waves in Long Bars" at the 1951 Spring SESA Meeting in Washington, D.C. (see SESA Proc., Vol X , No. 1). Bill's second (and last) SESA paper was entitled, "A Transistorized AM-FM Radio-Link Torque Telemeter for Large Rotating Shafts" and was presented at the 1956 Spring Meeting in Pittsburgh, Pa. (see SESA Proc., Vol X IV, No. 2). The co-author of the latter paper was R. F. Suit, Jr. In about 1953 Bill left the National Bureau of Standards and went to work for the General Electric Company, first in Schenectady, NY and later in Philadelphia , PA.

In 1951 Bill was appointed to the SESA Papers Committee which then consisted of a chairman (Milt Leven) and eight members. If that seems small by today's standards, remember that simultaneous sessions had not yet been introduced. A typical meeting lasted two and a half days, had five technical sessions, and a total of about twenty papers. Bill's next step up the SESA ladder came when he was elected to served on Executive Committee 1955-56, then he became a Vice President 1956-58 . Bill Campbell's terms and my terms on both the Papers Committee and Executive Committee coincided, so we had become well acquainted. When he took office as President in the Fall of 1958, he asked me to be Chairman of the Papers Committee. At that time we had just one paper available for the Washington Meeting, just six months away. Largely through his efforts, we were able to put together a full program. Unfortunately, Bill had a heart attack during his term as President, and Ben Lazan (then a Vice President) had to preside in his place at the Spring Meeting in Washington, D.C. Bill recovered sufficiently to attend the 1959 Annual Meeting in Detroit, but when he arrived there it was apparentl that he was not at all well. We didn't realize just how sick he really was, and were shocked when he died a few weeks later, just after his year as SESA President ended. Soon thereafter the SESA lost touch with his family, so much about his personal life remains unknown to us. We estimate that he was around 42 years old when he died.

Now, some 41 years later, it is difficult to find anyone who really knew Bill and who is willing and able to write an article about him. Very fortunately, Pete Stein sent me a copy of the Proceedings of the Western Regional Strain Gage Committee, produced in 1988, the fiftieth anniversary of the invention of the strain gage. Included in those

proceedings is a biography of Bill Campbell written by Frank C. Smith which we will reproduce here. I share Frank's fond memories of Bill Campbell. He was a good man and a good friend.— CET

I remember Bill well, and first met him in the Fall of 1944, when I joined NBS in the Aircraft Structures Group of the Engineering Mechanics Sections, Mechanics Division. As I remember the organization at that time, Dr. Hugh Dryden was Mechanics Division Chief, Prof. Whittmore (of the proving ring) was Engineering Mechanics Group supervisor, and Bill reported to Dr. Ramberg. Dr. L. B. Tuckerman of the Tuckerman optical strain gage was our Assistant Division Chief, and one of my mentors and close friends. So, you see, I was fortunate to work with some of the "greats" in the field of structure mechanics - but that is another story.

Below section Chief, the organization was fairly loose and there were few, if any, titles or "badges of rank". Functionally, the section was divided into working groups each led by a specialist, but the groups were fluid and younger people like myself were simple assigned to work with one of the specialists as the need arose. I believe I may have been assigned to work for Bill for a short time during which I learn to make gages. The ones I made used a simple tool for winding and were patterned after the SR-4 design.

I was going on 21 years of age when I joined that group, and Bill must have been about 27 or 28. I remember him as being one of the "younger" men, more my peer, than people like Dr. Ramberg (then about 44) or others. Bill was the Section's wire strain gage expert, and was assigned to work with gages on a full-time basis. I am not 100% certain, but I believe Bill's mission at that time was careful measurement of the characteristics of SR-4 and other gages under various conditions. Such effort would have been consistent with a part of our Section's charter, which was precise measurement of the properties of materials and devices related to structural mechanics in general and to aircraft structures in particular. Anyhow, I remember Bill was concerned about gages properties such as transverse sensitivity, creep and hysteresis, thermal effects, etc.

Bill was a rather quiet personality - not a "hale fellow well met", but friendly enough when he got to know you. He was married and kind enough to invite me (a lonely bachelor) to his home two or three times for supper and an evening of conversation.

I left the Bureau in October, 1945, to return to college, and rejoined them in September, 1947, after having completed my degree at Yale. Bill was still working with strain gages. I believe most of his work was documented in N.A.C.A. "TN's" at that time.

I transferred from that Section when the Korean War broke out (June, 1950) and lost track of Bill. In summary, all I can say is that Bill was regarded as a competent, dedicated professional who was our expert with wire resistance strain gages.