COMMENTS AND LETTERS TO THE EDITOR

Human Qualities of Our Scientific Progenitors

It has been a long standing practice at Washington State University to ask graduate students in soils in their prelims to identify the place and principal work of a dozen or so people in fields related to the student's speciality. Results usually are not gratifying. Assuming that our students do have a reasonable grasp of subject matter it may be somewhat moot as to whether or not it is important to know who does what and where. However, I believe that a good case may be made for putting a little more stress on the human side of our scientific effort.

As the son of an early U.S. physicist and soil physicist, Willard Gardner, it has been my privilege beginning at a very tender age to meet and visit with a great many scientists and educators. The significance of such meetings becomes increasingly great with the passing years—particularly where students show considerable interest in the personalities of people whose names they encounter in their studies. What made certain individuals decide to become soil scientists or educators, what were (or are) they like as people—were they hard-driving, cold scientific types or did they have a sense of humor—how much did they enjoy their work and life generally? These and many other questions about people retired or no longer living, as well as about illustrious colleagues who are still active, are of interest to me.

Soil science is a very old science. But among people now living and at least somewhat active there are those who, collectively, will have known personally a great many of the pioneer soil scientists of North America and many of those throughout the world. With a little effort by many people it should be possible to accumulate a considerable file of human interest information about our scientific progenitors. And, such information could form the basis for some highly interesting and useful historical articles or books. However, the opportunity is a fleeting one and if not acted upon quickly will be forever lost.

By means of this letter I am offering to make myself a repository for such information in the field of soil physics (broadly interpreted and including particularly soil water and soil-water-plant relations). Perhaps others might volunteer to do likewise in other fields. I am not so foolish as to make definite promises about writing a book or otherwise publishing the information which might be received. However, at some future date I would try to put the information to proper use. And, more importantly, I would make the information available to others with a valid intention to use the material to enrich our scientific heritage (including formal groups which might come into being in our Society).

Since scientific achievement largely is in the technical literature I should like to see human aspects emphasized.

A Similarity During Early Stages of Rain Infiltration

A recent paper by Ahuja and Römkens (1974) discussed a new similarity solution to the diffusion equation. They consider the early stages of one-dimensional infiltration of a constant flux, \( I \), at the surface and a unit moisture content \( \theta_o \), which is taken as zero in the following material simplification and without any loss of generality. The solution is obtained when the diffusivity, \( D \), is of the form

\[
D = A \exp B\theta
\]

which holds for many soils with \( B \approx 8 \), with \( \theta \) content at saturation is by definition taken as zero (Reichardt et al. 1972). Ahuja and Römkens according to their solution the moisture content at the soil surface, \( \theta_o \), increases like \( \ln T \), where \( T \) increases like \( \ln T \), where \( T \rightarrow \infty \) as \( T \rightarrow 0 \), which is of course unphysical. This and other limitations are now discussed with the help of a recent approximate method (Parlange, 1972).

The approximate method yields to the law

\[
z = \int_{\theta}^{\theta_o} \frac{D(a)da}{[I - K(a)]}
\]

where \( \theta \) is the water content at position \( z \) as a function of time given by

\[
\theta \approx \theta_o \exp -z/\lambda
\]

outside of academic circles). Some of the details of the information are retired colleagues. Those who should be urged to write down things they know about themselves, their colleagues, and predecessors are unable or unwilling to do it themselves. Younger people should visit them with the idea of salvaging as much of the information possible. In particular, the memories of such people would be particularly valuable, as well as of those who have passed along. I am not be asking for too much. I believe that current scientists should write something about their own history and aspirations with their own progeny in mind. Such information would be most welcome in the collection.

I'll close this long letter with the admonition to my colleagues that our soils heritage is rich in human as well as scientific material values and we seriously err if we neglect both.

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Dept. of Agronomy and Soils
Washington State University,
Pullman, WA 99163

WALLACE C. Day

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