

because they involve elements commonly thought to be scientific as well as other elements of creativity and choice also involved in scientific work but not commonly and explicitly elaborated.

They are not too well treated because existing treatments dwell on scientific values, scientific methods of a recognized objective character and include as exemplary controlled testing of hypotheses and the like. More often than not, they bypass the nebulous and elusive matter of how questions and hypotheses are originated and how one gets from a zero point to a take-off point. Not too much help is readily available because those who might be helpful recognize that the necessary learning must take place through getting involved in the gut experience. The important education involved is ultimately independent self-education, not spoon feeding or solely following someone else's direction in a compliant way.

Yet, there is no ready reference that tells just what the experience for individuals will be, subjective as well as objective. Nor is it likely to be clear beforehand what array of talents will be needed to move from ill-structured wondering and self-doubts to well-structured problems and the confidence to nail things down in researchable terms. Reference to works already published may only compound any sense of inadequacy for the less initiated. The antiseptic residue that appears in published form frequently omits anything informative about the subjective experience of the first stages.

The foregoing observations, let us concede, probably have more validity in fields of inquiry where traditions of theory building and research design and ways of socializing newcomers into these traditions are less well established. Examples of this class might include a great array of interdisciplinary, incipient disciplinary, policy oriented, action oriented, professional, quasi-professional, applied and ultimately utilitarian in contrast to basic