

The Roots of Culture

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[**EDITOR'S NOTE:** *This essay was originally printed in the English publication titled **The Gospel In Our Culture** (Newsletter 13, Summer 1992); **TAD** appreciates permission to reprint it. Robin Hodgkin requested that the following introductory note be appended for **TAD** readers: "This brief article skates past several tricky problems. For example, I make too close an elision between Mind, Principle, Logos, Structure and Form. These obviously should be sorted out but it would be a long and difficult row to hoe. Second, Michael Polanyi's writing on levels of orderliness and on the boundary processes between levels was seminal but still calls for more unpacking. And thirdly, his important remarks on the nature of machines and tools has never, to my mind, been adequately explored and expounded."]*

All human culture springs from the way, the process, by which we--a parent and child, a community, a church--*make sense of the universe*. Kristin Ofstad is right to suggest (Newsletter 11) that some of our present confusion results from a failure to dig down to the roots of sense and meaning which underlie our "Christian" culture. I propose to look at just two of these roots--Technology and Science--and to ask what they really are: or at least to get near to their simple essence. Are they separable? How do they relate to each other?

We can be helped in this enquiry, first, by Michael Polanyi. He taught us to think about a many-leveled universe and stressed that there is a hidden (tacit) knowing which undergirds and influences all our explicit knowledge. In language, for example, the hidden grammar that we learnt as children still shapes our style and energy of expression. There are also deeper patterns in our mind-body which constrain us or offer unexpected openings for our competence. For example: we are born with an aptitude for climbing but not for flying. Consciously or unconsciously we build with this substratum of tacit knowledge, shaped by evolution as well as experience, and make sense with it--sense which we share with others.

The second way of understanding the roots of science and technology is to reflect on the development of children's thought, via Piaget. This implies more than looking at the learning of individual children. We must go further and understand the importance of a child's background, enriched by many social and linguistic "givens": of love, trust, play and mutual exchange. This is where culture starts.

The subject is large, so we shall have to cut corners. Let us focus on Naomi, aged three, playing with her mother watching. She is building a tower with four bricks. She seems to be experimenting and making hypotheses--"what if . . . try this." Crash. Start again. Naomi's mother comments encouragingly and occasionally supplies a word for what is going on. "It wasn't quite balanced, was it, my love? Try it in the middle--gently." "Ah, that's splendid. Now it's standing firm and upright." Notice the prevalence in this kind of talk of what the philosophers used to deride as "value judgments." Language, morality, emotional dispositions, music, physical and artistic and social skills are all being shaped and nourished in such early interactions between two people and "nature."

In this kind of gently monitored and guided constructive play, science and technology are already beginning to appear in their distinctively different ways. *Making* dominates in those activities which we term “technological.” Articulate, *shared theory* and abstract terms dominate in the kind of knowing that we term “scientific.” They are complementary. Even the most “theoretical” scientists possess and use practical and other non-verbal skills in their work; and vice versa.

It is worth stressing that “*techne*” originally meant making things *well*, as in “technique”; “. . . ology,” “logos,” of course means “word.” However, because “word,” theologically, has such a tremendous connotation, I think we are justified in seeing a deeper meaning in “technology” than just “talk about making things well.” Logos suggests *mind*--the Mind of God at work in the world, through life and through living creatures. So when Naomi was successfully making something, even before she was a competent language user, logos or mind was, in a small way, flowing through her into the material she was handling, judging and thinking about. This is basic technology: mind flowing into matter and ordering it.

This is the broader definition of technology than is customary. It covers icons as well as machines, cathedrals as well as factories. In education, at least, it is usually a good idea to keep the concept of technology wide. Children thrive on an open and adventurous diet of *making*, of putting the bits and sub-skills together in a disciplined way to make a whole. Creative experience in, say, the arts or literature can carry over, more readily than “factual” knowledge, into creative competence in more focussed fields such as engineering or medicine.

What about science? In essence it is the opposite. If a child is generalizing from experience, she is using her conceptual skill and elementary language to draw principles or statements about observed patterns *out of matter* and into language. Such words as “balance” or “center of gravity” may have to wait a long time before they click as active concepts in Naomi’s growing mind. Such control of concepts is supposed to happen around the age of twelve. But more fundamentally, the essential wordless deductions, the ground-work, was being performed there, on the floor, long before the scientific vocabulary had been mastered.

Science therefore involves the drawing out of mind-like patterns from matter--from a play-thing or from some chosen object of observation. Such patterns are then articulated, linguistically or mathematically, for a community of critical inquirers. This may lead to good science or to bad science. Polanyi emphasized that the quality will depend very much on the degree to which the relevant scientific community shares both an understanding of the background and what he called “a universal intent” to persist in searching for more and more truth.

This way of thinking about science and technology makes an unfashionable demand on us: that we should regard logos or mind or principles as existing in the universe and not just in human heads. Polanyi was not alone in reviving this idea for the modern mind. Owen Barfield, his near contemporary, went much further and some of Jung’s ideas and certainly Teilhard de Chardin’s pushed in that direction. This perspective may still not be fashionable but it is beginning to crop up even in the writings of philosophically inclined biologists.

Much of the pristine experience of children gets covered up and forgotten. Obviously, there is great variety in the quantity and quality of the tacit “science” and tacit morality that children acquire. But then the tacit roots of science and technology can be utterly choked and distorted by layers of media-twisting and untruth, by commercialism and

gadgetry. When we try to reach down to simple experience or simple truth, we encounter that extraordinary impenetrability of modern communications systems and even, indeed, of modern education. Perhaps teachers of all kinds have failed to absorb and translate the Gandhi-Schumacher lesson: small is beautiful, foster and learn from nature and from the simplest technologies.

It is a Christian lesson too. The Christian gospel starts mainly with simple things, usually growing in some way: seeds and weeds, pearls, salt and a person. This is where the teaching and the learning start and should constantly return. The roots of frontier experiences, almost invisible, are what matter--WE--an I and a Thou--speaking something true, making something lovely, making something lively and putting our hearts as well as our heads into it.