

scientific community that there reside (1) awareness of what had already been achieved, (2) awareness of the further data still awaiting a satisfactory explanation, (3) awareness of the contribution actually made by the new view, (4) the grounded presentiment, the intelligent surmise, of new avenues for further exploration which now have come within man's reach and (5), when the decision is a hard one, the additional exploration of virgin territory and the grounded anticipation of still further advance. As Dr Kuhn has taught us in his The Structure of Scientific Revolutions, in the scientific community as elsewhere, nothing succeeds like success.

I have been setting forth a broad sketch of the dynamics of method. With that ^{long-term} view you are all familiar. None the less, I feel it is well to recall it, always for the sake of moral^e, at times for the sake even of morality. For the sake of morale, for the long view is not evident in our everyday experience. The long view is like an unseen castle in Spain, while our day to day tasks are just carrying bricks and mixing mortar. So it is well to recall that one's own effort is part of a far larger group effort, that it is the group effort that assembles the data and develops the intermediate theories that eventually result in a break-through, and again that it is the acquired expertise of the group that will pass judgement on the break-through and bring its high promise to fruition. Always for the sake of morale, I said, but at times even for the sake of morality. For there is a danger that lurks in specialization. It was Edmund Husserl, the founder of phenomenology, in his posthumously published Crisis of European Science, that

drew the conclusion: the narrower the specialization, the fewer the members of the immediate scientific community; the fewer the members, the greater the risk that they will operate, not on the basis of some remote scientific ideal, but on the time-honored lines of the in-group: each lauds the work of the others, while the criticism of outsiders is easily repelled by scoring / ^{their} ignorance and incompetence. It is the old question: Who guards the guardians? Quis custodit custodes? To it there is only the old answer. A further ring of guards offers no guarantee. The only solution is conscience. In the last analysis it is on the conscience of the scientific community that science has to rely.

To a broad sketch there must be added details and, in the first place, a contrast of method with its elder sister, logic. Method is cumulative and progressive. It is progressive: the New Method Laundry, week after week, turns out perfectly laundered shirts, but scientific method does not keep repeating the same result; it keeps turning out ever new and fresh results. Again, it is cumulative: the new results are not just juxtaposed to the old; they grow out of the old; they correct and qualify and complement what went before to yield a fuller yet single view.

In contrast, logic is static. Its conclusions, even before they are drawn, are already implicit in their premisses and, if they were not implicit, then the concluding would be fallacious. But if logic is static, it is not useless. Its goal is an ideal of clarity, coherence, and rigor. At each step in its advance scientific thinking has to clarify its obscurities, to iron out its inconsistencies, to weed out its non sequitur's. Again, as clarity, coherence, and rigor are attained, there