Church's Thesis and the Ideal
of Informal Rigour

GEORG KREISEL

Introduction   IR, short for 'informal rigour', is a venerable ideal in the broad tradition of analysing precisely common notions or, as one sometime says, notions implicit in common reasoning. CT, short for 'Church's thesis', concerns the common notion of effective computability, and is thus a candidate for IR.

As with other ideals and, more generally, with other aims there are two, possibly alternating stages in work on IR: first, the possibilities of *pursuing* IR, and secondly, of *examining* the pursuit, that is, its contribution to the broad area of knowledge to which the notions in question belong. Part of the examination consists in finding proper measures for the contribution, which, at least generally, are not given as part of the data.

There is a good deal of literature on these matters, including odd doctrines about some kind of logical impossibility of pursuit or examination or both; but also about their central place for knowledge. (What else do we have to start with but common notions?) Such frustrated and frustrating antics are not uncommon when there is simply nothing at all rewarding to be said at the level of generality at which the ideas involved are usually discussed. Being specific is no panacea either since counterexamples are liable to evaporate with simple distinctions.

What, if anything, is to be done with such ideas? Occasionally they are best relegated to those foolish things we must learn to forget. But often there is an alternative that has been successful in the scientific tradition, at least when a body of knowledge has accumulated that is, or can be, more or less closely related to some of the ideas in question, and has enough consequences for judging its significance (in contrast to the 'specific' counterexamples alluded to above). Experience shows that interpretations of such knowledge in terms of those ideas occasionally reveal not only new aspects of it, but also more rewarding levels of generality for the ideas. A familiar directive for this kind of investigation is: *dégager les hypothèses utiles.* Since a lot of work has been done around CT it is a candidate for use in examinations of IR too.

It may have escaped the reader's notice that the last paragraph is less innocent than it sounds.[1] For one thing the directive conflicts with the pious hope that *results will speak for themselves*, that is, without any explicit formulation