**Abstract**

The following article consists of a few short remarks on the inevitable incomprehensibility of science on the one hand and, in order to overcome this incomprehensibility, on common structures between science and the life-world on the other.

The veil of ignorance that, in the opinion of many, today hides science from society, and the public from science, and which in consequence often hinders communication about science, might be more easily lifted if the following question is answered: How comprehensible is science, and how comprehensible can and should science be?

Even the most energetic attempts at making science comprehensible, and at winning society for its enterprise, cannot get around the fact that the scientific understanding remains in many cases a mystery for the unscientific understanding. One cannot simply conjure the comprehensibility of what science knows into being. Difficult scientific subjects cannot simply be translated in all their aspects into colloquial language and concepts. He who nonetheless perseveres in the attempt is often disappointed, and this disappointment cannot be laid at the feet of science. Science is in a well-defined sense unavoidably incomprehensible. It is concerned with things that are not understandable to the layman either directly or indirectly, unless of course he his prepared to transform himself over the course of a long apprenticeship into a scientist. And science speaks a language that only science itself can properly understand. This mutual untranslatability belongs to its essence, and is indeed intimately connected to the responsibility of science. Simply and a bit exaggeratedly, put: science loses its scientific character when it is made understandable, and few scientists can be prepared to make such a sacrifice; conversely, everyday experience becomes incomprehensible when it is rendered scientifically.

Fortunately, this is not the last word on the matter. The reason is that what has been said should caution against the suggestion that only
arrogance and elitism hinder scientists from making themselves comprehensible. Indeed, the relation of science and society concerns much more than the popularisation of what science knows. It is a matter of assuring ourselves, and of justifying the scientific essence of our world, up to and including the structures of our everyday, so-called “life-world”. This makes understanding science, or surmounting the inability to understand science as part of a larger, cooperative enterprise, a crucial task. This inability is shared by both scientific and unscientific minds; it can be refuted with three short observations:

1. Science is problem-solving with other methods. If one thinks of science only as a dialogue of an Absolute Spirit with itself, or as a kind of hermetic world in the head, one has failed to understand both the real essence of science and its task. The essence and task of science consist in the overcoming of problems. These problems are often self-posed problems, but they are nevertheless similar to the problems that the scientific mind poses to itself. This begins (in pre-Socratic thought) with attempts at explaining the rainbow and perception, proceeds by way of astronomical models and theories of time, and it ends (for the moment) with the mapping of the brain and the decoding of the gene. But whoever knows the problems can understand the solutions. And so both for the scientific and unscientific minds it is ultimately a matter of making scientific problems comprehensible. For how can one understand answers if one doesn’t understand the questions they are supposed to answer?

2. Science is discovery beyond the frontiers of the evident. Scientific problems are often, if not always, solved by means of discoveries. For instance, in the case of the constitution of matter this solution was provided by the discovery of the atomic nucleus (1909 by Rutherford). But this is also the case with everyday problems and our dealings with them in everyday experience, for instance when we are looking for the right path, or for the proper spice for a soup. Not only the problem-structures of science and the life-world are similar in this regard (expectations are not fulfilled, experience is disrupted), but the structures of their solutions are similar as well.

3. Science is a highly stylised form of pre-scientific forms of knowledge. Science has been characterised from its Greek origins on by its theoretical forms. One such form, which is also the form of our textbooks, is for example that of the proof. This is indeed the trademark of science - and yet it finds its partner in the everyday world, namely in the form of argumentative communication. Induction, which is the
route from the particular to the general, and deduction, the route from
the general to the particular, are not just instruments of the sciences.
But this means in turn that the world of science and the life-world are
connected to each other by means of argumentative structures and struc-
tures of action. It is only that in the one world, that of science, stricter
rules hold than in the other one, the life-world. These rules mark the
path from the experiential form of knowledge to the theoretical form
of the latter, a path which as a result does not lead us away from our
common world, but rather deeper into this very same one by means of
explanation and justification.

Let this suffice as an answer to the question about how comprehensi-
ble science can or ought to be. Let me close with a last remark concerning
this “ought”.

The path of a science that seeks to make itself comprehensible is be-
set by risks, and by the enemies of understanding, among whom number
quite a few scientists. For if it is true that comprehensibility in the world
of science cannot be merely willed into being, that difficult scientific
subjects cannot be arbitrarily simplified, and that scientific terminology
cannot completely be translated into everyday language, still there is a
converse possibility, namely that of needlessly complicating matters in
the name of science. This possibility is abetted in many areas by a jargon
of incomprehensibility that does not advance science, but preserves
it from presumptuous attempts to render it understandable. And this
holds true just as much of the language in which science is expressed
as it does of the theories in which it is represented. They are often
like the emperor’s new clothes, above all in the social sciences and the
humanities, which are always under a special pressure to justify them-
­selves, so that the flight into terminological fancy and esoteric language
becomes particularly enticing. Simplicity appears as the enemy of one’s
own claims to significance. But this means that science here legitimates
itself with the credentials of its incomprehensibility (for after all, no one
understands the language of modern cosmology, and it is most certainly
a science). One speaks the language of Absolute Spirit, which reveals
itself only to the initiated, to which one would of course like to belong.

Unfortunately such cases are by no means rare. But to think this way
is to subvert the efforts of serious scientific and unscientific minds to ori-
et themselves in a common and comprehensible world. For this reason,
and in the light of the far-reaching “speechlessness” between science and
society, a critique of science that is informed by the latter and practised
with care is as important a task as the efforts of everyday understanding
to comprehend the world of the scientific mind.

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