

## PREFACE INSTEAD OF A “FESTSCHRIFT”

In June 1998 Hans Primas turned 70 years old. Although he himself is not fond of jubilees and although he likes to play the decimal system of numbers down as contingent, this is nevertheless a suitable occasion to reflect on the professional work of one of the rare distinguished contemporary scientists who attach equal importance to experimental *and* theoretical *and* conceptual lines of research. Hans Primas' interests have covered an enormous range: methods and instruments for nuclear magnetic resonance, theoretical chemistry, C\*- and W\*-algebraic formulations of quantum mechanics, the measurement problem and its various implications, holism and realism in quantum theory, theory reduction, the work and personality of Wolfgang Pauli, as well as Jungian psychology.

In many of these fields he provided important and original food for thought, in some cases going far beyond the everyday business in the scientific world. As is the case with other scientists who are conceptually innovative, Hans Primas is read more than he is quoted. His influence is due to his writings. Even with the current flood of publications, he still performs the miracle of having scientists eagerly awaiting his next publication.

His external life, by way of contrast, is not very spectacular. With the exception of a brief period as a guest professor at Washington University at St. Louis, he has never been away from Zurich for any length of time. He has never been awarded any prizes, never organized a congress, never done any organizational work in a scientific society. He deliberately distanced himself from the hustle and bustle of national and international scientific business.

Hans Primas' professional career started in 1945 with an apprenticeship as a chemical laboratory assistant for an industrial company in Oerlikon, close to his home city of Zurich. In 1948 he began to study chemistry at the Technikum in Winterthur. In 1953 he became a research chemist at the Laboratory for Organic Chemistry, which was headed at the time by the

Nobel laureate Leopold Ruzicka. In addition to taking courses in mathematics, he also attended lectures by Wolfgang Pauli during this period.

Under aegis of Hans-Heinrich Günthard, Primas became one of the founding members of the Laboratory for Physical Chemistry at the ETH in Zurich, where he stayed until his retirement. In 1960 he received his habilitation in the Chemistry Department and became an associate professor for Physical Chemistry one year later. 1966 saw him appointed as full professor for theoretical chemistry. He was Dean of the Chemistry Department for the periods 1967–68 and 1976–78. In 1991 his former doctoral student and co-worker Richard R. Ernst was awarded the Nobel Prize in Chemistry for his work on nuclear magnetic resonance.

The present volume takes up some of the discussions Primas has initiated or inspired. It deals with fundamental problems in the theory of matter and related philosophical questions. The individual articles have not been professionally reviewed and any editing has been restricted to matters of form. As a special feature of this book, and as a special service for the reader, each contribution is preceded by a brief introduction (“contextual background”), written by the editors, which places it in its scientific context in general or in the context of Primas’ work in particular. The first three articles are an exception in this respect; to some extent they can be understood as background material themselves. In addition to the subjects they address, they also show aspects of Hans Primas’ stature as a scientist.

The main body of the volume is organized according to the keywords “matter” and “mind”, the first category focusing on physically oriented topics and the second on those of a philosophical nature. At the end of the volume, the reader will find a list of publications by Hans Primas until 1998, the addresses of all contributors, and an index.

After his retirement in 1995, the life of Hans Primas keeps being dedicated to scientific and general cultural matters. His workload is still enormous. And he is still no friend of pomp and circumstance – in fact he strongly dislikes such ceremonies. What he does like – and above all respect – is competent and constructive criticism. *Habent sua fata libelli*: this book is intended to provide valuable ideas and give rise to perceptive criticism or innovative research projects. This is the spirit from which it emerged, and this is the purpose to which it is dedicated.

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