I will try to show here how even a very limited use of the operational technique can be sufficient to reduce to the same group of well-defined operations many of the explications and interpretations given by men in their various speculative activities. By doing this, with a particular regard to physics, I hope to show also how a broader exploitation of this original technique can provide the scientist and the philosopher with a more fruitful awareness of their own work, its historical antecedents and its possible developments or alternatives.

Operational technique is the name first given by S. Ceccato to the tool that characterizes his operational methodology. This technique consists in the execution of the following operations: 1) to consider anything as the result of operations on something else which is considered as “originary” or starting point; 2) to repeat on the originary or originaries the operation or operations which yield the above result; 3) to give a name to the result, to the operations, and to the originaries.

The essential part of this process consists in finding the operations by means of which one can obtain the result from the originaries. Everything from time and space to probability and induction, from beauty and sign to behavior and rectilinearity can be considered as a result or as an originary. Every originary may be considered itself a result of an operation, because the re-opening of the

1. Ceccato, S., Language and the Table of Ceccatiff, Hermann & Cie., Paris, 1951. The words employed in the definitions of this book are carefully selected in order to prevent every criticism from the current viewpoints of logic and epistemology. For the purposes of my exposition, however, it will be sufficient to use a much less rigorous choice of terms.
spiral process is always possible, as in the ever-growing vocabulary of everyday life or as in engineering, where any product may be considered as raw material or tool for a successive product and vice versa. The "operator" himself is not an irreducible originary defined by the extent of his skin or by the range of his sense organs: it is the result of operations which, as any other of the sort here employed, could be exemplified also by a mechanic or electronic device. The operation or chain of operations is not necessarily unique, as it is not in every ordinary technique from cookery to textile manufacturing. In any case, comparison between the concept under consideration and the result of the operations on the originaries enables everyone to see whether the research was successful, i.e., whether the methodologist did or did not find operations which lead from the originaries to the result under examination.

The question of the "historical reality" of these operations has not a greater significance, if any, than the question of the exactitude reached in the attempt "to know" an unknown mechanism, e.g. a watch, by rebuilding it. The knowledge thus gained may have little or nothing to do with the knowledge of the way actually followed by the inventor of the mechanism. It is only in the same sense that the operational technique may be said to yield "knowledge".

An analysis of this sort never ends with the insuperable doubts by which every kind of gnosiological inquiry is affected, from always referring to something not reducible by it, such as thing-in-itself or reality or language or divinity. The latter type of inquiry may be compared to a pyramidal process (in contradistinction to the spiral process of the operational technique) with the irreducible terms such as thing-in-itself, reality, etc. forming the base of a certain pyramid. The difficulties in the operational technique are sometimes very great but they are always technical and only technical, so that a decisive test can be made in every case and at every stage.

These few remarks will be sufficient for a preliminary distinction between this type of work and the well-known "operationism" from which, as formulated by P. W. Bridgman, the former took a starting impulse. As a representative collection of critical expositions of Operationism, I will refer to the "symposium" published by the Psychological Review.

2. It would be better to call such a result operational awareness and the technique that produces it awaring technique, i.e. the technique of becoming operationally aware. The new denomination will be used and further commented on in the next volume of S. Ceccato.