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Statistical graphics is passing today through a phase of its development which is at the same time challenging and critical.

Automation has opened possibilities which a few years ago would have appeared as Utopian. For instance:

- a) Graphs can today be mass produced at a tremendous speed and low cost;
- b) Automated graphs can attain levels of accuracy and attractiveness even exceeding those of hand made graphs;
- c) Both effectiveness and beauty of the automated graph can be enhanced with colors;
- d) In each stage of graph production, quick and efficient experimentation of alternative solutions, and substitution and alteration of the various elements of the graph become possible.
- e) These facilities, together with animation, give to the graph powerful potentialities as scientific research tools and as suggestive means of communication.

In the second paper of this session, Mr. Barabba will introduce us to the wonderland of graphical automatic devices by showing the amazing example of the graphical activities which have been developed in the course of a few years at the Bureau of the Census.

The technical revolution in the preparation of graphs has taken place in a period in which demand for graphs is increasing at a very considerable pace. Both the papers by Dr. Schmid and Mr. Barabba illustrate how the modern explosion in data production entails an increased need of graphs for spreading part of this information among the general public, and for providing a tool of quick communication of essential knowledge to decision makers, both in politics and business. It is likely, too, that the importance of the graphs, as instruments of scientific and practical research, may grow in the future along with increasing awareness of how the graphs can help us to obtain an overview of the data, to discover regularities and irregularities, to suggest new scientific hypotheses and to discard previous ones in the light of empirical evidence. A further task which may become very important is that of translating the enormous masses of data produced by statistical offices into a more understandable form than the tabular one and to help in deciding what sets of data are worthy of publication.

The coincidental increase in technical possibilities and in demand for graphs is probably not fortuitous and is certainly welcome. However, it is both paradoxical and sad that those developments have not been accompanied by a corresponding development of graphical statistical methodology and of its theoretical background.

As will be indicated in the paper by Dr. Schmid, the situation of these fields has remained stagnant until very recently. Graphical methodology has largely disappeared from most Universities' curriculum as a subject worthy of extensive and deep didactic and research activity. Findings of psychological research of the type which will be illustrated by Dr. Wainer have not been properly channeled to the knowledge of professional statisticians and even less to that of graph makers. The same applies also to findings of information sciences.

The retreat of statisticians from the field, well illustrated by Dr. Schmid, has left a vacuum which is being filled more and more by technicians, whose first interest is rationality of production and not fidelity of the graph to the data represented. Therefore, a sizeable part of the graphs produced today are of poor scientific quality, may unintentionally deceive the public and the decision makers for whom they are intended and, in the long run, they may bring discredit to statistical graphics.

Some awareness of those dangers seem to have emerged in the past few years. It may perhaps not be accidental that in the last few years some professional statisticians have taken an interest in the field, graphical methods have been debated at national and international statistical conferences, some professional groups of users of graphs have been formed and the Bureau of the Census has taken a lead in this field. Also our meeting of today is, to some extent, a proof of this awareness.

The program of our meeting, as prepared by Mr. Barabba, is a well balanced one as it gives to us many facets of the problems ahead of us.

The paper by Mr. Barabba will indicate what technology has done and still can do to improve the field, and how a big data producer like the Bureau of the Census can shift more and more toward graphs as means of communicating its findings.

The paper by Dr. Wainer will suggest avenues in which psychologists can help the statisticians in the preparation of graphs apt to give the information they are purported to give.

The Poster Session, immediately following this meeting, will show examples of developments of graphical methods which can be achieved (i) by introducing new graphical symbols or tools; (ii) by clarifying some basic concepts in certain fields of graphical presentation; and (iii) by eliminating limitations and shortcomings of classical methods. The paper by Dr. Schmid will introduce us to the important problem of role of standards in graphical presentation.

I take the liberty to suggest that in the discussion of this valuable paper, attention be paid also to the hints contained in it on practical ways which can be found to ensure some follow-up to the meeting of today. It seems highly desirable, that some channels may be established at national and international levels, to render more efficient the work needed to reassess the entire graphical field. As a final aim it seems desirable to enlarge, improve and revise the graphical methodology, to formulate better standards, to enlarge the attention given to graphics in university curricula, to train specialists and to give a better education of statistical requirements to graph makers.