

# Attention and Performance VII

Edited by JEAN REQUIN

# ATTENTION and PERFORMANCE VII

*Edited by*

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# **ATTENTION and PERFORMANCE VII**

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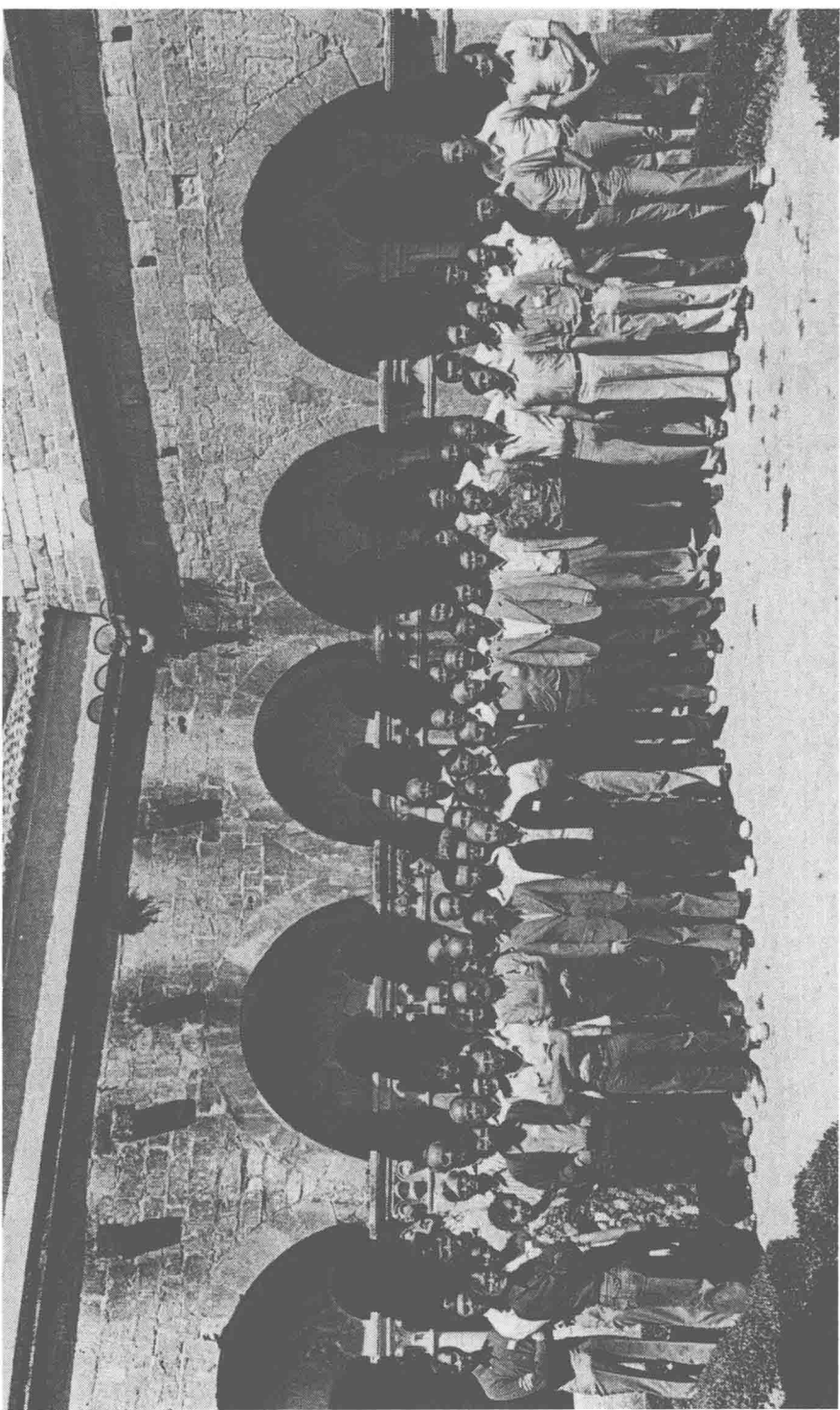
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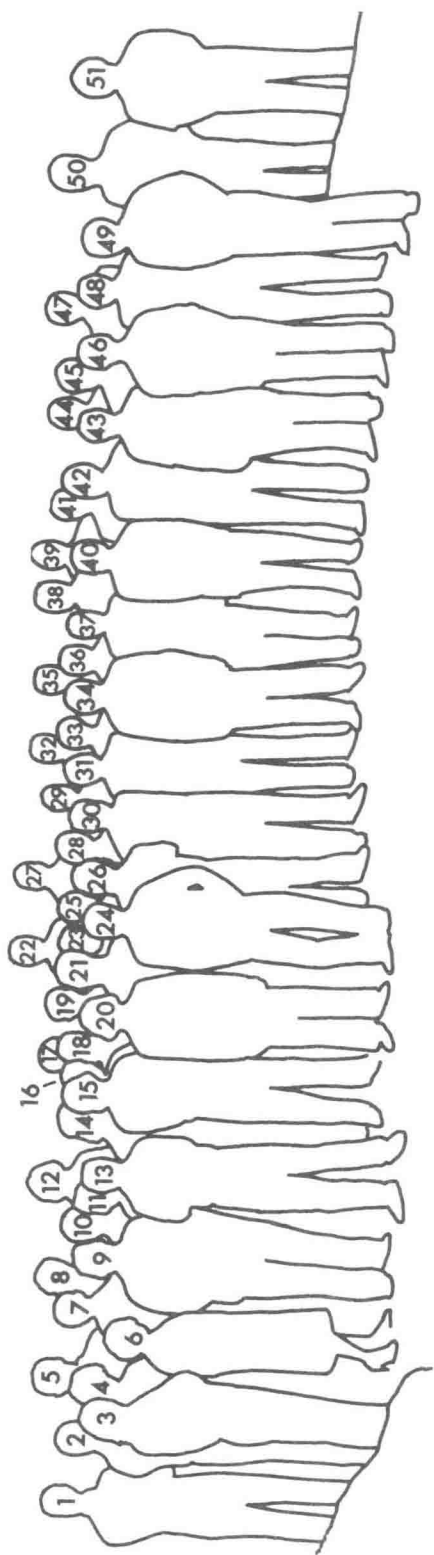
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## Preface

The organization of the Seventh International Symposium on Attention and Performance marks a double anniversary. It not only was held 10 years after Andries Sanders took the initiative of bringing together a small group of human performance specialists, it also marked the beginnings of a new, formal association. Only now can we fully appreciate how much Sanders' initiative foreshadowed the fundamental direction of interest that has dominated experimental psychology over the last 10 years. It is now clear that the satisfaction expressed by the participants of that first conference, and by those of the next five equally successful conferences, was due, at least in part, to the style chosen for holding the meetings (i.e., small, intimate, deliberately open-ended, free from academic tradition or formalism), which seemed particularly suited to creative work and scientific discussion. This satisfaction expressed, in part, fulfillment of a deeply felt need: Many research workers, faced with the rapid development of ideas resulting from an even more rapid accumulation of new data, were rather distressed to see their work still rigidly classified in terms of psychological "functions" and were willing to take part in the dynamic forces that periodically restructure disciplines, temporarily concentrating research efforts on new problems and problem areas.

Thus it was logical that those responsible for the successful organization of the six preceding meetings (and the regular and internationally valued publication of their proceedings) wished to perpetuate in the statutes of an association<sup>1</sup> the tone and precepts that were at the heart of this success. Hence

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<sup>1</sup>The first ad hoc organizing Committee consisted of Drs. W. G. Koster, S. Kornblum, P. M. A. Rabbitt, A. F. Sanders, S. Sternberg, and A. T. Welford.

the new "International Association for the Study of Attention and Performance" was created, whose objectives are to "increase and disseminate scientific knowledge in the area of human attention, performance, and information processing, and to foster international communication in this area." Although some people warned the organizers of formalizing what had been until then a succession of spontaneous improvisations building on previous success, the idea was enthusiastically received by most of our colleagues, who saw in it a way to perpetuate the spirit of Attention and Performance.

The organization of the seventh of these meetings was, thus, the first scientific expression of the new association. In this context, the organizer's mission was both simple and perilous: simple, in that it did not require as much imagination and improvisation as it did imitation (by borrowing well-trying formulas of his predecessors), and perilous, in that confidence in the excellence of the technical material presented did not guarantee the main objective (i.e., that a certain style and atmosphere prevail). From this viewpoint, he can be criticized for having minimized the risks by choosing to organize the meeting in the Abbey of Sénanque, whose 12-century stones, drenched by the Mediterranean sun, were his precious and ever-present collaborators. Whereas it is not our role to determine whether this volume displays "continuity in the absence of directives," which was one of the charms of the preceding meetings, we can, however, affirm that the organization of *Attention and Performance VII* was determined with this idea in mind.

But spontaneity was not the only aim. Indeed, a constant concern was to prevent disciplinary and methodological divisions from dominating the thematic structure of the meeting. This sprang less from feelings of marginality in a psychophysiological organizer than from the hope of catalyzing the somewhat static position of experimental psychology in France. Scientific psychology, an area that is particularly active internationally, has found it particularly difficult to develop in a country where the humanities and sciences have been traditionally opposed and where the academic context still condones the gulf between the social and biological sciences. Where the development and autonomy of psychology over the last 25 years required a demonstration of its scientific respectability, it has been difficult to prevent protectionist attempts at preserving methodological unity at the expense of a somewhat restrictive definition of its subject matter. Anglo-Saxon and American readers, especially, may find such considerations rather out of date. The reality that they represent remains, however, a sensitive area for many French research workers. This is particularly true for those who have chosen to work at the juncture of psychological and physiological disciplines, and who regard the future promise of this position as worth its present discomfort.

The organization of this book can be seen as a reconciliation of the three main goals that served as guidelines in setting up the conference. The first

goal, which I called "spontaneity," was obviously suited to emphasize currently more dynamic areas of experimental psychology. This explains the large place given to so-called "cognitive psychology." To a large extent this may cover little more than the recent and legitimate infatuation for studying complex information processing related to language. This is well represented in the two sections where problems of word perception, reading, speech perception, and speech production are developed. The second goal was to exemplify the necessary complementary relationship of psychologists and physiologists in the convergence of problematics and levels of analysis. This appears particularly in the constitution of the two sections devoted, on the one hand, to functional differences between the cerebral hemispheres, and, on the other hand, to the role played by attentional processes in the preparation and programming of sensorimotor activity. The third goal was the wish to counter extreme empirical approaches, which often lead to underestimation of the heuristic value of theoretical developments and attempts at formalization. This clearly underlies the organization of the first and last sections. The first is devoted to the temporal patterning of perceptual processes, an area where the sophistication of experimental studies is especially suitable to fostering speculation; the last is entirely devoted to some new advances in the field of models. As initiated by the *Attention and Performance IV* volume, each of these sections except the last is opened and/or concluded by a "tutorial" paper. This is conceived more as a sifting of information in the field than as a true review paper, and it is aimed at giving each section more coherence, as well as serving as a guideline for nonspecialist readers.

The organization of the Seventh International Symposium on Attention and Performance could not have been undertaken without the financial aid of the "Délégation Générale à la Recherche Scientifique et Technique" and the "Centre National de la Recherche Scientifique"; it could not have been accomplished without the efficient technical assistance graciously allotted by the "Institut de Neurophysiologie et Psychophysiologie," or without the collaboration and advice of the members of the Executive Committee of the Association, and the support of Paul Bertelson, who was constantly available to the organizer of the congress and, later, to the editor of this volume.<sup>2</sup> Lastly, my thanks go to those who had the heavy and delicate task of reading, in a spirit of total cooperation, the different contributions that make up this book: D. A. Allport, R. J. Audley, A. D. Baddeley, D. Bamber, P. Bertelson, D. E. Broadbent, J. M. Coquery, J. C. Falmagne, D. M. Green, A. W. F. Huggins, D. Kahneman, S. Keele, M. Kinsbourne, S. Kornblum, D. LaBerge, D. Lépine, A. M. Liberman, S. W. Link, A. J. Marcel, D. E. Meyer,

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<sup>2</sup>S. Dornic, S. Kornblum, J. Requin, A. F. Sanders, S. Sternberg, A. M. Treisman, and A. T. Welford form the actual Executive Committee of the "International Association for the Study of Attention and Performance."

B. C. J. Moore, J. Morton, R. Näätänen, R. S. Nickerson, J. Paillard, R. W. Pew, P. M. A. Rabbitt, T. Shallice, L. H. Shaffer, G. Sperling, E. A. C. Thomas, A. M. Treisman, M. Treisman, L. Van Noorden, and H. G. Vaughan, . . . without forgetting the person who undertook to improve, with not too much severity, those few pages of which the editor is co-author. The editor maintains the privilege, which he would share if he could, of being the only one to be fully acquainted with the interesting book, which could be published, of the correspondence between and among the editor and the authors and all those whose useful suggestions and kind criticisms were greatly responsible for the merits of this book.

JEAN REQUIN

# **ATTENTION and PERFORMANCE VII**

*Proceedings of the Seventh International Symposium  
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