Through the centuries, humans have had to fight with symptoms like nausea, vomiting, postprandial fullness, abdominal bloating, abdominal discomfort, heartburn, constipation and diarrhea. It is well known that these symptoms are not always brought about by structural diseases of the gastrointestinal tract. They can, for example, be caused by alterations of gastrointestinal motility and/or sensation. These disorders affect an important percentage of the population and are therefore serious public health problems. Gastroparesis, gastro-esophageal reflux disease (GERD) and functional disorders (like functional dyspepsia and irritable bowel syndrome [IBS]) are among the most important. Gastroparesis and GERD are disorders that are caused by defects of gastric or lower esophageal sphincter motility. Functional gastrointestinal disorders, like functional dyspepsia and IBS, are considered to be the clinical product of interacting psychosocial factors and altered gut physiology (abnormal motility, altered mucosal immunity, or visceral hypersensitivity) via the brain-gut axis.

This special issue contains several key contributions to the international symposium “New vistas on gastrointestinal motility: from physiology to therapy”, which took place in Rome (Italy) on September 28th-29th, 2007. The symposium was organized jointly by the Department of Pharmacology and the Department of Internal Medicine of the Catholic University of the Sacred Heart of Rome, sponsored by the Fondazione Internazionale Menarini and held at the Catholic University. The meeting addressed a vast audience – anatomists, physiologists, pharmacologists, pathologists, gastroenterologists and, also, general practitioners, surgeons and other clinicians – with the aim to improve the understanding of the physiology and pathophysiology of neuromuscular behavior in the gastrointestinal tract and to advance the treatment of motor and functional gastrointestinal disorders. To this end, the symposium program covered a select range of cutting-edge preclinical and clinical topics in the field of gastrointestinal motility and neurogastroenterology. These aspects were discussed by internationally recognized opinion leaders.
The first session of the symposium focused on the state-of-the-art picture of the physiology of gastrointestinal motility. It laid the groundwork for a better understanding of current and new pharmacological treatments for some of the most important motor and functional gastrointestinal disorders. In particular, elucidation of the mechanisms underlying the regulation of lower esophageal sphincter, stomach and colon motility has contributed to an in-depth analysis of new avenues in the pharmacological treatment of GERD, functional dyspepsia and IBS, topics discussed during the following sessions. New pharmacological targets for gastrointestinal disorders include the endocannabinoid system, protease-activated receptors and ghrelin receptors and complement “old” pharmacological targets such as serotonergic and tachykinergic systems, motilin receptors and ion channels. Apart from a general outline of pharmacological opportunities, specific issues such as the treatment of gastroparesis by prokinetics was addressed. And last, but not least, new approaches to the treatment of opioid-induced constipation were discussed.

The authors of this editorial constituted the scientific secretariat of the meeting and acted as the editors of this special issue. Prof. P. Preziosi, chairman of the Institute of Pharmacology of the Catholic University at the time the meeting, and Prof. G. Gasbarrini, chairman of the Institute of Internal Medicine of the Catholic University, were the co-presidents of the symposium. The symposium would have not been possible to organize without the generous and noble sponsorship of the Fondazione Internazionale Menarini. We warmly thank Dr. A. Casini, president of the Fondazione Internazionale Menarini, for his encouragement and support. Finally and most importantly, we would like to emphasize that the symposium was conceived by Prof. P. Preziosi. We would like to thank Prof. Preziosi with all our hearts for the opportunity to live the exciting experience of organizing this symposium, and to appreciate the contributions of the speakers to make the symposium a success.

D. CURRÒ, P. HOLZER

1Institute of Pharmacology, Catholic University School of Medicine, Rome (Italy)
2Research Unit of Translational Neurogastroenterology, Institute of Experimental and Clinical Pharmacology, Medical University of Graz, Graz (Austria)