

GUEST EDITORIAL PREFACE

Special Issue on Computational Psychoanalysis

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First at the 2014 IEEE 13th International Conference on Cognitive Informatics & Cognitive Computing (ICCI*CC 2014), held at London South Bank University, in August 2014, and now with the much extended contributions in this special issue, computational psychoanalysis is becoming a well-established domain of research. Great challenges are accompanied here with possibly paradigm-changing potential, extending across many fields. Cognition, all that relates to cognitive informatics, and natural intelligence, are important application areas for this domain. Reciprocally, cognitive informatics plays a central role in computational psychoanalysis.

The aims of this work are represented by the contributions to this special issue. These aims include the following. A primary aim is to advance new computational, mathematical and other theoretical foundations for methodology relating to our understanding of human cognition with reference to consciousness and to the unconscious. Included are data analytics, even using social media, since it is through social interaction that emotions are manifested and channelled. Furthermore we can note that emotions have action and cognition aspects.

A further aim is to have methodological innovation solidly grounded in application fields, that include psychoanalysis and psychology and potentially many other fields. Achievements to date in this area include study of quantum-like behaviour of the brain, related to cognitive and subcognitive time scales; information modelling through p-adic number theory and ultrametric topology; and formal modelling, destined for new forms of computational capability, as well as furthering our understanding of human reasoning and activity. A most influential strand of this work lies in relating data modelling and analytics to the methodology and practical work of eminent Chilean psychoanalyst, Ignacio Matte Blanco. Contributions to this volume provide newly developed perspectives on these areas.

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Fionn Murtagh holds BA, BAI, MSc and PhD degrees in Mathematics, Engineering, Computer Science and Statistics from Trinity College Dublin, Ireland, and Université P&M Curie, Paris 6, France. He has authored or edited 24 books, and published more than 140 journal papers and more than 150 conference papers and book chapters. He is a Fellow of the International Association for Pattern Recognition (IAPR), and a Fellow of the British Computer Society. He is former President of the Classification Society (previously the Classification Society of North America), and also of the British Classification Society, which celebrated their 50th anniversary in 2014. Fionn's research is in data science, digital content analytics and computational science. One current theme of his research is towards Computational Psychoanalysis. This includes, on the one hand, providing the support of computational and cognitive sciences for clinical psychoanalysis, and for application domains that include creative activities and also forensics. On the other hand, a research objective is to understand the tremendous computational power of the human subconscious, resulting in both emotion and decision making, with consequences for all human actions and activities.