Preface

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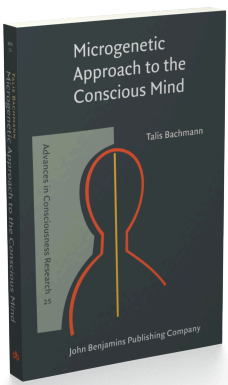

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Microgenetic Approach to the Conscious Mind
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Preface

Objects, organisms and whatever other systems — all have their “history”. Before they exist in the completed, fully functional or operational form these entities have gone through the process of formation. Cars have been assembled, mushrooms morphogenetically growen, and e ective social groups formed and developed. On the assembly line, cars go through several “quasi-car” states; in the human womb, embryos develop through definite prenatal, “quasi-baby”, stages; in the newly formed collectives, structures of communication networks and role-playing responsibilities will have had “quasi-team” features before a stabilised, well-structured team has born. Moreover, one of the best ways to understand the nature and the future potential of whatever particular object of theoretical interest there is consists in tracing back and analysing its origins and developmental changes it has undergone.

These evolutionary views are hardly surprising if we deal with the material world, including living matter. To prove the point, take as an example the contributions Linnaeus, Darwin, Crick, Watson, Wilkins, and many others have made to biology and genetics. Can this heuristic be applied, however, if one’s object of study belongs to the realms of mind? Both “on-line” and retrospective measurements and descriptions of the di erent states of any developing object of study are relatively easy to work out if our concern is physical measurement. With mental realities such as perceptions, thoughts, emotions, and personality structure, scientific analysis and measurement along a diachronic perspective may not be easy to fulfil. These realities disappear altogether with the bodies that feature them. But this is not the only di culty. In addition to the elusive nature of the object of study, researchers themselves are subject to the influences of scientific culture and the *zeitgeist* that happens to prevail at a particular time.

Theoretical preferences and practical habits of the postmodern era have almost succeeded in replacing *homo naturalis*, a subject of biological evolution (the organismic conception) with *homo “artefactus”*, a subject of political formation and manipulation (the sociological conception). What else if not

abstract computational models based on “fleshless” symbol systems suit well this perspective? The *socium* majority seems to have accustomed to this almost as if Darwin’s imperative had been just a temporary modernist fad. Yet babies are still born as a result of fertilisation and human brains keep working in an astonishingly similar fashion to those of cats and monkeys. However outdated it may seem, our bodies are made of biological stu and represent the results of biological development along both phylogenetic and ontogenetic scales. Even language, that ultimate means of liberation from nature is impossible in its creative and meaningful form without the 1.4 kilograms of a wet, sponge-like, tissue filled with billions of living cells specialised for information transmission, transformation, and accumulation (see, e.g., Luria 1961, 1962). Even St. Thomas Aquinas, Ludwig Wittgenstein, James Joyce, and Jorge Luis Borges are conceivable not only as socio-cultural, linguistic or spiritual realities but also very much as something related to certain bodily existence.

Nevertheless, a lot of the contemporary psychology, cognitive science and philosophy function as if there is not much di erence between computers and human brains and as if what goes on in our minds is simply another variety of a discrete symbol processing or symbolic computation in a purely abstract domain. Of course, modern (read: contemporary, not postmodern) neuroscience, accompanied by the emerging science of consciousness, involves some apt (re)discoveries of the natural-scientific foundations for the studies of mind (e.g., Crick 1994; Milner 1998; Milner & Goodale 1995; Weiskrantz 1997; see also Searle 1994, 1999, and Tulving 1997, about the simple formula: “consciousness = a special property of the *living* organisms”). Nevertheless, the adoption of the computational approach together with the strategy of synchronic exploration that form the descriptive and interpretational apparatus for the research on mind, tend to prevail. (Synchronic means here that it is contrasted with diachronic analysis, the latter striving to investigate genetic origins of the processes and their temporal progression in real time.) Consequently, there seems to be a definite incompatibility between the nature of the substrate of mental functions on the one hand (the analogue-format brain processes unfolding within the internal environment which has been formed by the evolutionary pressures), and the nature of the descriptive and explanatory means invoked to understand the workings of this substrate on the other hand.

This text is presented to the reader in order to provide a review of a notable research tradition in the field of the studies of mind — the microgenetic approach — and bring this approach into the context of the mainstream cognitive psychology and (neuro)science of consciousness. There have been some scattered attempts to review and introduce the microgenetic approach for the purposes of

neuropsychology, developmental psychology, and clinical psychology (psychodynamics). There has been as yet no comprehensive, systematic, treatment of microgenesis in the context of perception and attention research, including the perspective of scientific studies of consciousness. With few exceptions (e.g., Searle 1992, 1994; Sheets-Johnstone 1998; Edelman 1989; Calvin 1996, 1998; Humphrey 1992; Dretske 1995; Macphail 1998), the biological-evolutionary perspective seems to have remained alien to modern consciousness research. The latter is dominated either by synchronic neuroscientific approaches, by physical-reductionistic views of the quantum-mechanics origin, or by cognitive-scientific world-view in its di erent varieties (viz., cognitive psychology, AI, linguistics). The microgenetic approach, introduced in this volume, may possess a capacity to integrate the standard approach to the psychological processes that take place within the actual, situational time scale (a typical subject matter of cognitive experimental psychology and psychophysics) and the evolutionary approach (typically applied for phylogenetic or ontogenetic research).

The book is presented for the interdisciplinary audience of specialists from a diverse covey of disciplines. The common denominator for this group should be the interest towards scientific studies of consciousness. Thus, a fellow psychologist, neuroscientist, philosopher, linguist, artificial intelligence specialist, anthropologist, biologist, and perhaps some others — all are hoped to will have found something new, intriguing, useful, or simply controversial, however thought-provoking, in this book. Whereas the text will put somewhat stronger emphasis on *experimental* findings from the microgenetic and related research, it would be more relevant for those who seek some supplement to their collections of empirical evidence as they are related to various research problems of consciousness in general and perceptual awareness in particular. Yet, as in the second half of the book the implications of the reviewed experimental regularities for the central problems of consciousness studies will be discussed, the book should be of relevance also for the more theoretically minded readers.

The genesis of this book can be said to be due to its two “ancestors”. First, the years-long experience of the author in the lab of perception and attention research, with the stress he has made on time-course functions of these wonderful psychological processes. Second, a sort of intellectual resonance enjoyed by the author while reading the works of those scientists who have adopted the evolutionary, genetic, “world-view”. Respective examples have been provided, in particular, by Charles Darwin (but who won’t say so!), Karl Ernst von Baer (who once worked and lived very close to the author’s birthplace in space, but far in time!), Heinz Werner (indeed another scientist-violin player!), Nikolai Lange (a true visionary!), and Aleksei Leont’yev (a real genius in putting deep scientific

thoughts into politically interpreted texts — what a grace and pity). Academicians Eugene Sokolov and Vladimir Zinchenko deserve special mention as the former scientific supervisors and role models. (By the way, Zinchenko was perhaps the first who mentioned the word “microgenesis” to the author.) My special thanks go to Bertie Kaal and Max Stamenov of John Benjamins for their support, encouragement, and professional help with the manuscript. Writing a book about micro-genesis is unthinkable without a macro-scale help from your publishers.