Introduction

In 1799, while working at the reconstruction of Fort St. Julien, north of the little town of Rashid on the left bank of what in ancient times had been called the Bolbitinic arm of the river Nile, a French soldier in the Napoleonic army dislodged a large slab of black basalt covered with carvings (Budge, 1989).

The stone was taken to Cairo and eventually examined by archaeologists and Egyptologists accompanying the French army at Bonaparte's expressed request. They quickly realized that the slab of basalt carried a "trilingual" message (actually, inscriptions in two languages and three alphabets). The first was in ideograms, the pictorial and as yet bewildering "hieroglyphs" that were still baffling all those who attempted to translate them. The second inscription was carved in "demotic" Egyptian, the colloquial writing system of ancient Egypt. The third inscription was written in ancient Greek. After reading the Greek passage it became clear that the stone carried an invaluable gift: the same text written in hieroglyphs, demotic Egyptian, and Greek.

The slab was to be shipped to France for display in the Louvre, but Napoleon was defeated by the British, and the stone was shipped to London instead. Named the Rosetta Stone from the place of its unearthing (Rosetta being the European name for Rashid), it is still on display in the British Museum, one of the most important archaeological discoveries of all time. Eventually, by integrating the information on the same phenomenon described in the three very diverse alphabets, the secrets imbedded in the Egyptian hieroglyphs gradually became apparent. The exquisite images became verbal sounds that reflect the everyday language of the Egyptian people, and the depth and complexity of that ancient culture was slowly revealed, making humanity that much richer in the process.

The pictorial alphabet had been the tool of expression of the religious-political system of ancient Egypt. Its invention was attributed to the God Thoth, "the heart and tongue" of the sun god Ra, and it carried instructions on how to deal with the universal themes of gods, death, and the afterlife. It

recorded the deeds of the men-gods—the pharaohs—and of the main religious-political rulers of the country. It appeared to have nothing in common with the demotic writing of the people, characterized by a set of signs, each representing a specific sound or "letter." And yet the demotic character proved to be an abbreviated and modified form of the hieratic character, a cursive form of hieroglyphic writing. The pictures of humans and animals, objects and cryptic symbols were representations of the same basic sounds conveyed by their demotic counterparts.

It needs to be noted that even with a three-alphabet translation of the text obstacles to their use kept creeping up, now largely related to jealousy and competitiveness among experts, some of whom were apparently driven by the desire to be known as the repositories of the true translation, the discoverers of the key to the real alphabet.

In the present book I will introduce a different sort of Rosetta Stone: three languages (actually, it may be more correct even in our case to speak of two languages and three alphabets) which, when used conjointly, may significantly facilitate the understanding of psyche.

The first language is the language of physics and mathematics. It addresses the system of rules that potentially organize and direct the universality of bios, or life, that vast conglomerate of all biological organisms, of which humanity is just one specific form. The other two languages may actually be considered as different alphabets of a common domain, that of neuropsychobiology. These two languages address a specific phenomenon, the human brain and the human mind. The information is usually presented in two different forms: the objective, observer-related language of neurobiology (commonly identified with the field of neuroscience) and the first-person, subjective language of the individual mind (commonly identified with the field of psychology).

The scope of my writing is to illustrate the advantages that might be derived from using these three languages to understand diverse aspects of the mind. For each language I will employ a specific model, one with which I have become acquainted in the course of my search for a method to enable me to decipher the human subject. We are all preferentially versed in the language and symbols that are the common modes of expression for our specific fields of interest, for those areas in which we spend most of our professional lives. These predilections may induce either the idea that our language is the one best fitted to give accurate descriptions (while other languages appear imprecise or incomplete), or that others are not able to use it as accurately as we do; or, frequently, a combination of the above. I therefore need to repeat the statement that my focus is *the versatility aspect*, the advantage to be gained from providing ourselves and becoming acquainted with a Rosetta Stone of sorts. In the same vein, I do not want to suggest that the specific models I use are the final ones. On the contrary, I am of the opinion that we are still very

tentative and limited in our attempts to understand mind. In this respect, we continue to be the blind men around the elephant.

The mathematical language model that I have chosen goes under the label of *nonlinear dynamics* and I will liberally use the information on this language provided by neuroscientist and mathematician Alwyn Scott (2002). To illustrate the demotic, first-person language, I have relied on the mythological model of Psyche as reported in substantial detail by lecturer and philosopher Apuleius. The observer-centered language models I have selected are those of neuroscientists Gerald Edelman (1989, 1992; Edelman & Tononi, 2000) and Antonio Damasio (1994, 1999), and also in this case I will liberally use the information provided by these experts.

In the first part of the book I will describe these languages in some detail as I understand them. I emphasize the understanding part in order to underscore the fact that all these languages are understandable by lay people. A good point to start from is to realize that they all mean the same thing; they are simply expressing different metaphors that emerge from the creative phase space (see Chapter 2) of specific human minds. Rather than being looked at with diffidence they should be approached with curiosity and with the expectation that they may yield invaluable information.

Part II presents selected mental phenomena, as they appear when translated into each language. By superimposing these translations the mental phenomena assume greater depth and definition: this is congruent with the fact that the phenomena are now observed from a three-dimensional rather than a one-dimensional perspective.

In the final section I will touch upon some examples of how this composite knowledge can enhance our understanding of the human mind, not only at the individual level but also in a broader sociocultural context. Finally, this book has to be taken for what it really is: an admittedly naive exercise in the integration of the different approaches used to probe the mystery of mind; and nothing more.