Brain waves from the sea

Chris McManus sifts through the past of a Nobel prizewinner

Eric Kandel: a science laureate with a soft spot for Freud
In Search of Memory: The Emergence of a New Science of Mind
By Eric R. Kandel
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When in 2000 the Austrian media kept phoning “to tell me how pleased Austria was that there was yet another Austrian Nobel prize, I had to remind them that this was an American Nobel prize”, he writes.

In America, Kandel was educated first at a Hebrew school and then a local public school in Brooklyn, before being accepted at Harvard University and majoring in modern European history and literature, particularly German literature. There, he read Freud, revelling in the ideas and the beauty of the writing. Chance and fate then intervened; after the death of his charismatic literature teacher, he fell in love with Anna Kris, the daughter of the psychoanalysts Ernst and Marianne Kris. Kandel fell not only for Anna, but also for psychoanalysis. “No other views of mental life approached psychoanalysis in scope or subtlety”, he writes. He was particularly compelled by the fact that psychoanalysis “was at once imaginative, comprehensive, and empirically grounded”; adding, with half a century’s hindsight, “or so it appeared to my naive mind”. Ernst Kris also taught Kandel that “neither trained introspection nor creative insights” would create a science of mind on their own; “it needs experimentation”.

The affair with Anna was to finish, as also was the affair with “my first love — psychoanalysis”, although the latter lasted long enough for Kandel to switch to medicine, and for a while he practised psychiatry. He is often asked about the benefits of his own analysis, and always replies: “To me, there is little doubt.” As Freud recognised, a residue always remains of our earlier infatuations. He returns and returns to Freud and his writings, quoting Freud’s aphorism that “biology is truly a land of unlimited possibilities” and recalling how Freud described his research on the nervous system of crayfish as “the happiest hours of my student life”.

Having decided to study individual brain cells, Kandel notes that Freud had “sought to solve the hidden riddle of mental life by studying the brain one nerve cell at a time”. Later, while recalling hours spent listening to action potentials in a crayfish brain, Kandel comments: “I was becoming a true psychoanalyst; I was listening to the deep hidden thoughts of my crayfish!”

Neuroscience, like so much biology, has been invaded by a radical reductionism for which the only legitimate ways of studying mind, thought and behaviour are seen as molecular genetics, cell biology and neural imaging — and then often by researchers with little knowledge of psychology, psychiatry or neurology. If psychoanalysis is known about, it is primarily by an overwhelming, ill-informed gut instinct that defence mechanisms, the id and the Oedipus complex must be the work of a non-scientific devil — or perhaps “Sigmoid Fraud”, as one of my medical students once wrote. Neural reductionism in its worst forms can be like counting the frequency of punctuation marks in Shakespeare while entirely missing the deep humanism of the texts themselves. But Kandel himself never makes such naive errors.

Perhaps the most intriguing (if at times frustrating) chapter of the autobiography is “Biology and the renaissance of psychoanalytic thought”. Kandel continues to watch psychoanalysis, noting that as radical reductionism took hold in biology, so a more radical version of psychoanalysis also took hold, in which “biology... is irrelevant to psychoanalysis: it becoming a discipline "strangely unconcerned with empirical evidence or with the brain as the organ of mental activity". Kandel, however, still finds hope for psychoanalysis. Seeing psychotherapy as a learning experience, and he puts faith in the potential of brain imaging. Returning to Freud, he speculates that “had imaging been available in 1895, when Freud wrote On a Scientific Psychology, he might well have directed psychoanalysis along very different lines, keeping it in close relationship with biology”.

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