

Evolutionary primacy of emotions: The brain is a gland and psychoses are emotional derangement

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In the computational era of cognitive sciences it has been largely underestimated, if not overlooked, that the human brain is primarily a gland and only additionally a computing device. The fundamental elements of its operation are chemical compounds, with concentrations set to basal values by the specific genetic outfit of every individual and changing in response to environmental stimuli, the manipulation with abstract bits of information being secondary to this operation. The brain originated from simple aggregates of nerve cells distributed across the body, which communicated with each other and with other cells by chemical messages, creating a common chemical milieu. The evolution proceeded from simple nets of neurons through widely dispersed ganglia up to a single organ, which continues to consist of a number of diverse, even disparate, morphological and functional modules. The compaction of the nerve cells notwithstanding, the brain is not the „seat“ of mind: mind is „superimposed“ over, and is homomorphous with, the entire body which, in turn, is homomorphous (both anatomically and physiologically) with its specific evolutionary acquired niche.

The many-to-few association of countless external stimuli with the restricted amount of chemical compounds in the nervous system is the basis of affective (emotional) evaluation of the stimuli. The compounds represent a fundamental warp of mental activities, with external stimuli providing the weft, weaving together a primary mental tapestry, a basic map of the surroundings, the emotional reality. The higher-level computation in the brain cortex, cognition, and, in humans, conceptualisation, is both evolutionary and functionally secondary to emotions and its product, the cognitive and conceptual reality, is subserving the emotional reality. The highest level of mental activities, consciousness, is the latest evolutionary acquisition and may have evolved in human to enable conscious experience of emotions.

Considering the enormous redundancy, and hence robustness, of the number of neurons taking part in cognition, and taking into account the principle of logical parity, which stipulates that all rules of formal logic are nothing but an abstract translation of physical necessity, cognition may be incomplete, feeble, failing, but hardly sick. Hence, mental insanity must be linked to emotions, not cognition. The two major mental disorders, manic depressive psychosis (MD) and schizophrenia (SC), appear to be consequences of emotional derangement, and thus of abnormal setting of the inner chemical milieu of the body, either direct (MD), or indirect as a suit of a failure of the arousal filter (SC). In both disorders, cognitive functioning may be preserved essentially intact and its apparent bizarreness may be accounted for by persistent attempts of the computing part of the brain to bring order into and rationalize the emotional confusion. By implication, even though symptoms of both diseases, gauged mainly as cognitive failures, are human-specific, the two diseases must also occur in non-human animals and the latter may be used as experimental models of the human psychoses.

The high incidence of both mental disorders (about one per cent of human population each), as well as their apparent polygenic determination, suggest that, as long as the abnormal genes involved in the two psychoses are present in individuals at subthreshold levels, no overt

psychopathology becomes manifest. Rather, such individuals may profit from superior social acceptance and enjoy higher Darwinian fitness due to emotional excentricity, which fuels ambitions, strong motivations to work and to display, and exuberant artistic and scientific creativity.