Zen and the Brain
The MIT Press: Cambridge, Massachusetts, 1999, 844pp, by James H. Austin, M.D.

Thick An-Hue

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There have been many years in anticipation of the appearance of a scholarly work to be penned by a practitioner of Zen Buddhist meditation who is also a neruophysilogist with experience in in-depth probing into mysticism and science. For the questioning reader who is looking for an explanation of how neuroreceptors act upon the meditation experience and how Zen practice affects psychological, emotional and physiological experiences, Austin quickly refers to data which record actual experiences of meditators. (Synthesis of chap. 19, pp. 78) Experiences of visual and auditory aberrations, hallucinations and unusual somatic experiences can result from intensive meditation for long periods during one session, and during weeks and months of practice; however, these often occur in healthy individuals and are not regarded as signs of psychic disorder by insight

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meditation practitioners. Conversely, instances are cited where meditation retreat candidates experience episodes of anxiety, depression, suicide ideation and schizophrenic reactions, (pp. 375) How Zen, or zazen, influences brain functions may be seen as the theme of Dr. Austin's new text by brain specialists', physiologists and practitioners of meditation practice in the Zen Buddhist tradition. He notes that 1998 was the 100 yr. Anniversary of 1st trip by Zen masters to U.S.

Almost in a fervent manner to take the reader passed merely a notion of elusive Zen, Austin in many chapters gives some detailed reasons for Zen meditation practice and answers the question vividly. But what is Zen? As if to say, as does Christmas Humphries, lets quit beating around the bush.

At first glance the Zen reader may be taken back and have to pour over some of the numerous scientific/technical passages explaining brain functions, (pp. 603; pp. 605-606) However, this reviewer feels there is value in re-reading the un-complicated trainings of neural-brain/mind connections. For example, the well-stated explanations of the neurological reflections on kensho. (pp. 602-605)

In the author's brief Preface he disclosed the underlying thesis of this voluminous treatise; it is not written to attract the expert neuroscientist nor Zen master, but to "summarize the often-murky topic of Zen in order to make clear how vital are its relationships with the brain." (pp. XIX)

Where attempts are made by the reader to relate the nature of Zen and associate that with brain functions, the text can be a quick reference by subject of concern. For example, in the explanations of human learning and unlearning, we are reminded that life's events condition us. Our human limbic and brainstem circuitry "learned to make us dodge fear, blush with shame, ego-swell with pride and clutch with desire" (pp. 333) Austin asks, "are these conditionings which Zen would have us shed? The answer is "Yes", to this and to a devotion to permanence to this life and things in it. The author proposes that Zen will diminish the "I" (the grasping ego), but it doesn't break the spirit and leave one with the deceptive remains of a neutral, lifeless unresponsive product. Instead, it will stir up old misdirected energies and... "jar them into kensho, from which they will be rechanneled." He goes on to re-phrase the startling hypothesis that conditioning establishes behavior patterns - how else could Zen bring about lasting changes in the brain?

Regarding Zen mediation practice with a purpose to develop mindfulness, Austin offers no apologies for uses of the term "mind" and leaves the reader to provide his/her own definition without fault: brain functions - mental activities - no criticism, no need for distinctions (the Zen approach). This reviewer's orientation about Zen and its psychological/physiological effects have always been that nothing is absolute, everything is relative; time is relative. It is proposed in this text that zazen removes relative, comparative thinking but does not detract from healthy, argumentative logic. As far as what happens to time, we humans exist in the immediate now; there is no concern with past or future. If you suppose some phrase on a page of writing totally absorbs your attention, for example, other distractions - other words - fall away, an absence of time during absorption. This absence is

represented as "Now is!" (pp. 563-564)

In discourses on "mindfulness" in this well developed text the author relates how it can register bare perception-observation with detachment Later the brain seems emptied of all but the first, raw sensory data. "Insight meditation", that practice of Vipassana and the Theravada traditions, is not looked at as a different skill, but it is stated that Zen diverts its approaches from comprehensive labeling of events practiced in some Theravada forms of insight mediation. For discrete mindful attentiveness, Zen mediation, as practiced, is laced with moments of unity, oneness -for there is no argument for the separateness of the two techniques.

But the reader may ask, "what does the brain do to suggest that the Zen practitioner is on the right road to higher levels of awareness, that one can develop more mindful intuition, has larger staying power

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for thoughts, can develop stronger memory powers, etc." (pp 130-31) Personalities of meditators who stay with the practice can be described in terms of various brain activity, a relationship the researcher may have been looking for.

In arriving at conclusions concerning objective relationships of the Zen experiences with behavioral and brain analogies, Austin cites scientific relevant EEG and biofeedback studies, (pp 90-91) If one is searching for certain "facts" which support a cosmic consciousness of taming the brain with Zen practice, or justifying time spent in learning Zen mediation, he contends samadhi practice is safer, easier to attain, more supportive of joyousness as a sublime state of being and is safer than drug therapies. An extended account of religious, mystical and spiritual presence for Zen practitioners is here given. But, this is not a sales pitch for seekers to practice Zen. In essence, what is reported is that the "Manchurian Candidate" or conditioned learning - type brainwashing may be advanced by psychedelic drugs, and interposed meditation will restore the Zen sense of brain-emotion oneness. Extinction is a general technical term and Zen is the healthy way back. (pp 329)

One approach Austin takes which probably is the most thought provoking, questioning percept is that supported by his research into brain stimulation. He finds that this phenomenon, as found in recent studies, is of noted importance in Zen. What causes a sense of experiential immediacy is when deep limbic structures are stimulated directly. (pp. 591) The diverse results show "alternate" states of consciousness vary among individuals. The Self totally vanishes in kensho. When meditation adepts look for kensho, but don't realize it, it may be there but masked as a different variety of religious experiences. This supports William James' observations in his Variety of Religious Experiences. Austin explains kensbo in relation to effects of sharp limbic system and direct brain stimulations - spontaneous (or triggered) excitation. "Kensho is a flash of mental illumination." (pp. 591)

To guard against selling kensho as a byproduct of Zen meditation practice, neurological charges do not necessary call upon kensho to quieten a complex brain chaos, (pp. 611-613) And, in the sense of describing release, liberation from bonds and delusions, there is moksha. Without a drastic change of pace from "samadhi" (total emersion) mediation, the reader is directed to a phase-in of the evolution of samadhi to kensho by describing lucidly from where in the brain kensho arises, (pp. 477; pp. 614)

The reader may conclude that what is experienced through zazen (sitting meditation) has no relationship with brain functions i.e. the brain does not direct one's meditation egression, experience or progress, but ... "we will discover that meditation is a vital probe for understanding how the brain works. " Memory and visions of the future will come into play in Zen meditation, but that offers more motivation to attempt to follow the effects and affects of Zen - the "rules", if you will, to "stay here and in the Now" (pp. 588 & 560)

Austin points out that positive spiritual experiences do not always occur. (pp. 375) Meditators confronting emotional problems get wrapped up in meditative state and expect immediate solutions. But, positive spiritual experiences producing some degrees of happiness, clarity and unusual energy must not be confused with awakening. There follows in-depth treatment of just what "positive spiritual experiences" are and a warning that the earnest meditator does not make linear progress; especially, naive beginners who cling to unrealistic expectations, optimistically, (pp. 975)

The author's analogies are potent in aiding the reader to consider natural effects of "pauses" (quiet rests of the body) in our daily chaotic world as beneficial by sitting meditation. Long pauses in our nervous system are followed by burst firings followed by pauses - an actively used connection becomes stronger if allowed to rest briefly. In one's planning the pauses, as in meditation practice, the blank spaces of "no-mind" moments have "..effaced many of our I-Me-Mine boundaries".

If one is looking for rationalization for practice of mediation in Zen style, and in other forms of meditation, it will not be

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found in the described physiological advantages of zazen practice detailed by this author. He notes that the balance of consequences and challenges in brain functions correspond with a practice of physical discipline. We practitioners of meditation in various styles - insight, samadhi - interested in how and when brain functions can be fine-tuned in advanced levels of motor-performance, are closer to closing the gap.

Zen teachers differ in approaches to views of zazen: practices differ, individual student's practice with different intensity and direction, and the author suggests that meditators need to avoid getting wrapped up in meditative states, (pp. 124-125) He also warns that meditators need to work through, with qualified teaches, problems of distraction, excitement, dullness and sinking; warning: some degrees of happiness, clarity and unusual energy spells are not to be confused with "awakening". If a spiritual episode occurs who knows the lasting effect?

Austin punctuates the marriage of Zen with the brain with question of reformation - changing the heart, or mind. He asks, "is the transformed brain emotionless?" He answers, "No. It is stable, balanced, no longer overcome by the ups and downs of the emotions." He responds to one perplexing thought the reader may have with, "(M)any people grow, by degrees, as the result of practicing introspection into the troublesome events of their daily lives, ...not (just) limited to the pilgrims who are on the meditative way." This is clearly not confined to events resulting from patient-psychologist relationships. (pp. 642)

Austin proposes early in the text that from historical readings there appears to be an ever-evolving message: "in the final analysis, Zen training means brain training." His personal experiences in both his work as a medical doctor and Zen student would captivate the most casual reader.