

Ten Questions for James H. Austin



Back in 2005, I read about the work of Dr. James H. Austin in John Horgan's fascinating book Rational Mysticism [1]. My next step was to get a copy of Dr. Austin's Zen and the Brain [2]. I was hooked. Here is a scientist - a neurologist - who happens to be a Zen practitioner. You could as well describe him as a Zen practitioner who happens to be a neurologist. "What's the big deal?," you might ask. Zen has claimed for centuries that right practice will literally change your mind. As Westerners, we are likely to imagine that practitioners learn cool new stuff, and decide to follow Zen. That's about one-tenth true. What right practice does is to eventually, and in numerous subtle ways, restructure the fabric of the human brain.

More broadly, Zen has been grossly misunderstood in some areas by we in the West. We value our egos; Zen talks about the end of the ego. It's not what you may think. Early English scholars, such as James Legge (1815 - 1897) were the first to publish many spiritual texts from China, Japan and Korea with English translations [3], but their apprehension of both the languages involved, and the concepts within these works, were oft-times mis-apprehended. Today, we have a much better grasp of the languages and the concepts, and it is time to let Dr. Austin speak for himself. I should add our usual disclaimer that, *Dr. James H. Austin is not a Member of the Outlands Community, nor does he endorse our work.*

Roy Waidler

1 You were, for much of your career, an academic neurologist involved in neurochemistry research at the University of Oregon Medical School, then as the Chairman of Neurology at the University of Colorado School of Medicine, among other schools. In 1974 you took a research sabbatical at Kyoto University Medical School to study the norepinephrine pathway that leads up from the brain stem into the cortex. What led you to Zen?

A: I was not interested in meditation to begin with. By a happy accident, my dear friend and classmate, Jock Cobb, gave me a book to read on the flight over to Japan: Zen and the Art of Archery. I really didn't understand how this spiritual path could be related to archery. But I remained curious. This curiosity led me to meet and to begin Zen training with an English-speaking Zen Master: Kobori Nanrei Sohaku (1918-1992). He was the abbot of Ryoko-in, a subtemple of the major Rinzai Zen temple, Daitoku-ji, founded in 1324.

2 In your earlier work, as you attempted to assess the effects of Zen practice on the brain, what were the first things which became evident that Zen does, in fact, alter the structure of the brain?

A: Decades before *structural* MRI data arrived on the research scene, I was fascinated to discover how Zen meditation could change some major physiological *functions* of my brain. The first inkling came in 1974. Two months after starting to meditate, I had become both noticeably calmer *and* more attentive. During the later phases of zazen, I first entered a minute-long interval of calm, clear global awareness. To my surprise, this interval contained *no* monkey-minded word thoughts.

The first drop into a major alternate state was a much more abrupt, dramatic change. During the previous four months, I had been meditating indoors and working outdoors two or three mornings a week at the Zen temple. Then, one evening, on the second day of a formal retreat, I plunged deep from a feeling of one-pointedness into an episode of internal absorption.

Prominent events in this complex state included:

- A red Japanese maple leaf was briefly projected as a vivid hallucination far out into the left upper quadrant of vision;
- A crystalline jet blackness --- blacker-than-black --- glistened throughout 360 degrees of unlimited space;
- Percepts were witnessed with great immediacy inside this

- heightened global awareness;
- No physical observer was “doing” this witnessing. No physical or shallow mental concepts of self remained in the center. No sense of time remained;
- Throughout this vast vacuum of space, the “sound” of absolute silence prevailed;
- An earlier phase of enchantment was followed by a warm, blissful affective tone.

To a neurologist, these were clinical symptoms. They were clues representing huge departures from the normal physiology of my vision, hearing, attention, physical sense of Self, time, and affect. I've spent over four decades since then, pursuing explanations. (Details of this state are examined in 15 chapters of *Zen and the Brain*).

Now let's take up your second question about the effect of long-term meditation on the structure of the brain. In this respect, the most recent results of structural MRI have been encouraging, (especially for those of us in the later decades). A noteworthy example is the 2016 high resolution MRI study by Elaine Luders' group at UCLA. It focused on *large* numbers of long-term meditators (n = 50) and control subjects (n = 50). These meditators had practiced for an average of 19.8 years. They ranged in age from 24 to 77 years. The data showed that, at 50 years of age (a half-way marker) these meditators' “Brain Age” (an index based on their volumes of grey matter) averaged 7.5 years *younger* than that of their controls. Indeed, for every additional year *over* the age of 50, the long-term meditators' brains appeared to be one month and 22 days *younger* than what might be expected on the basis of their actual chronological age. The non-meditating controls showed no such preservation from the adverse effects of aging.

3 This is possibly a loaded question! Do experiences such as *kensho* (loss of a sense of self) allow one to see things "as they really are?"

A: In response to your question about kensho, this second major state didn't take place until the next sabbatical in London eight years later. It happened at 9 am on the surface platform of the London subway system, as I was traveling to the second day of the March Zen retreat. This episode of kensho in 1982 clearly plumbed much deeper than had the absorption in 1974.

My attention was drawn both to the sight and to the clattering sound of the train as it gradually turned to the right and disappeared into the long underground tunnel. As I then turned to the right, and looked far up into the open sky, the entire scene instantly acquired three novel qualities: absolute reality, intrinsic rightness, and ultimate perfection of every detail. This whole scene was witnessed with the cool objectivity of an anonymous mirror.

- It had no reference back to the former psychic Self of the "*I-Me-Mine*";
- Its total loss of fear was felt at the deep visceral level;
- Its total lack of time (*achronia*), left the prevailing impression of eternity;
- All things were so complete and so satisfying that nothing remained to be done (Other insights during this inexpressible "taste" of kensho are examined in the 17 chapters in Part VII of *Zen and the Brain* and in 8 later chapters of *Zen-Brain Reflections* (2006).

Consciousness becomes empty of its pejorative psychic sense of Self when it suddenly drops into the state of kensho. The novel world it experiences is finally shorn of every intrusive over-conditioning that had been attached to the former operations of its "*I-Me-Mine*" complex. However, this former, seemingly normal, (*egocentric*) way to perceive "reality" has always maintained a silent partner. Normally, it cannot fully acknowledge this quiet, subordinate partner for very long.

Can we actually have two versions of reality, only one of which we're

made aware of? The way we usually see, using our own two eyes, can provide a convenient analogy. Usually, one of these eyes is our “master eye”. Say that your right eye is the dominant one. Keeping both eyes open, extend your right arm to point to a distant object using your right index finger. Next, notice that as soon as you close your left eye, (thus seeing only with your right eye), your finger stays on this target. However, if you now *close* only your right eye, your finger seems to jump way off the target to the right.

So, without realizing it, your master eye has “borrowed” contributions from your left eye and has co-opted its visual functions to create what appears to be only one whole unified visual perspective.

Back in 1972, Charles Gross and colleagues found that single cortical nerve cells on *one* side of the monkey’s inferior temporal lobe could react to the visual stimuli of human or monkey fingers shown out on either right or left sides of that witnessing monkey’s nasal meridian. By 1990, it became obvious to R. Tamura and colleagues that certain hippocampal nerve cells in fully awake monkeys would react to such visual cues only in *self*-referential ways. This particular nerve cell’s self-centered perspective was being referred back to the head and body of *that* particular witnessing monkey.

But, other hippocampal nerve cells took a very different visual perspective. This perspective was referable to *other* items *out there* in the visual environment. The old Greek term, *allo*, translates as other. Hence, these *other*-referential, *other*-centered nerve cells have been called *allocentric* neurons.

The neurosciences seem slow to appreciate how relevant are these widespread inherent Self-other neural network distinctions to the brain’s emergent allo- capacities to see all things “as THEY really are.” This happens on rare occasions when its dominant, intrusive partner --- our own maladaptive self --- suddenly vanishes during kensho.

Why is this major shift --- away from our ordinary EGO/allo consciousness into an extraordinary alternate state of ALLO/consciousness --- so difficult to grasp? The difficulty begins when we lose sight of several facts:

- It is crucial (especially in Zen) to keep training all of our skills in mindful attention and awareness during both concentrative and receptive forms of meditation.
- Each time the brain shifts quickly into a reactive attentive mode, it normally *turns down* the activity of its psychic autobiographical self-referent networks. These are represented mostly in the *medial* frontal-parietal (so-called “default” regions);
- The brain *normally* manages to shift these complex, reciprocal, opposing functions in its two hemispheres *simultaneously*. Seesaw shifts of this magnitude plausibly hinge on thalamo↔cortico relationships. Often these are the result of many intricate interactions involving the capacities of the thalamic reticular nucleus and those of its extra-reticular allies. (*Selfless Insight* (2009) examines these issues in greater detail.)

#4 Since the publication of Aldous Huxley's The Doors of Perception in 1953, in which he describes his experience with the psychedelic chemical mescaline, there has been a recurrent theme in our culture that, if one takes a few trips, one can become enlightened. You have a different perspective; care to comment [4]?

A: You're correct. I'm a physician, coming from the ancient premise, "First do no harm". So, on balance, I'm no proponent of psychedelic drugs. My objections to our current drugged culture's facile abuse of hallucinogenic and related drugs are substantial. These objections echo those of many Buddhist teachers, past and present. Huxley's own book title, "The Doors of Perception," provides a useful reminder. He took this phrase from a sentence by William Blake. Blake's first word in his original sentence established a very shaky premise, because he wrote: "If the doors of perception were cleansed, everything would appear to man as it is, infinite." But the drug trip

severely alters consciousness. It distorts perception more than it cleanses it. Moreover, it's worth recalling which words Blake had chosen for *his* own title. They were "The Marriage of Heaven and Hell, a Memorable Fancy."

5 How would you encourage a person, new to Zen?

A: To begin with, I'd emphasize the crucial role of *shila* (Skt.) It means that you apply a simpler lifestyle of restraint and renunciation to get rid of your own maladaptive behaviors.

For a general literary background, I'd say start with Shunryu Suzuki's *Classic Zen Mind, Beginner's Mind* (1975). Then include Robert Aitken's book, *Encouraging Words. Zen Buddhist Teachings for Western Students* (1993). James Ford's 2012 book has the subtitle, *Field Notes from a Zen Life*. Helpful chapters clarify what Zen practice is, what it is not, and describe what to look for in a Zen teacher.

For some simple, useful suggestions about how to meditate, I'd also suggest *Meditating Selflessly, Practical Neural Zen* (2011), even though this inevitably casts its author in a self-serving light.

I'd emphasize choosing your Zen teacher and his/her sangha very carefully from a well-established lineage that has an excellent reputation. Establish a regular time for your meditation at home. Proceed incrementally. Attend retreats. Expect to be discouraged by your setbacks and apparent lack of progress. Hang in there.

6 Within the fields of mind science, it may strike scientists in a number of disciplines that you've created an odd mix indeed: neurophysiology and a spiritual tradition that goes back at least 2500 years. For a Western researcher, what light can Zen throw upon things like our emotional and mental states, or upon our consciousness?

A: Since 1974, I've found that the Zen Buddhist spiritual path and those newer fields termed "mind sciences" do become mutually illuminating, because they overlap at multiple points. In particular, psychophysiological research is deeply rooted in the functional anatomy of normal brain networks.

Most of the over-conditionings that burden our psyche are referable to input from the limbic and paralimbic networks in our brain. When studied by functional MRI, many of these emotionalizing regions and those correlating with our autobiographical sense of Self are found to be *less* active in long-term meditators than in non-meditating controls.

Take again for example, that 1990 discovery: certain single nerve cells in the temporal lobe of primates have an *egocentric* perspective, whereas others nearby take a separate *allocentric* perspective. This early physiological research has paved the way for a fundamental reorientation toward self/other paradigms. In this way, we begin to understand that ordinary consciousness normally blends two perspectives of "reality". Once this is grasped, it can become the preamble to realizing how *allo*-consciousness can shift toward "*We-Us-Our*" dimensions during other extraordinary states.

Some friends in psychology, neurology, and psychiatry share common misunderstandings about Zen. I advise these friends to examine the benefits of the 8-week mindfulness-based stress reduction course (MBSR). Those who then learn how to meditate have reported that the practice opens up new vistas for themselves and for their patients.

7 In my introduction, I alluded to how that word *ego* has been misunderstood vis a vis Zen. I would imagine that most people have Freud's concepts in mind when they hear that word. Can you define what is meant by *ego*?

A: Freud was on the right track when he spoke of *ego*. Freud's original *ego* was the pragmatic executor. This *ego* stood for "reason

and circumspection.” In his triad, the ego negotiated a working balance with the *superego* and the *id*. Here, the superego was the keeper of our conscience. It acted out all the familiar roles of our parents and of societal pressures. In contrast, the *id* was the repository of our urgent, passionate instinctual drives. These required the ego’s harnessing and guiding in order to move in the proper direction.

Good so far. But later, in ordinary parlance, the word, ego, then evolved into something quite different. People misused it to refer to someone they couldn’t like. Why? Because he or she was too selfish, had an “inflated ego”, was “too egocentric.”

In this situation, Zen becomes misunderstood. Zen regards the pragmatic, original Freudian ego as something to be *strengthened*. This positive ego is *not* what Zen training diminishes. Zen targets the subsequent semantic misinterpretation of ego. This negative, maladaptive, overconditioned ego is what needs to be diminished during long term training.

8 I ask this question with the full awareness that every human being is different. Yet, how long a time is needed for a diligent novice practitioner to experience results?

A: Let’s propose that a “diligent” novice practitioner means someone who will actually meditate for perhaps 15 to 25 minutes daily --- once preferably in the morning, on arising. Also, ideally, a second time, in the evening, before retiring. If so, then distinct moments of calmness, clarity, and subtle immediacy of perception will usually become more noticeable after some two to four weeks.

In my case, as noted earlier, I could discern a subtle enhancement of my ongoing present moment attentiveness within the first 2 months. Occasionally, while meditating, minute-long intervals of no thinking also developed within an ongoing clarified awareness.

As mentioned, after four months as a novice regular meditator, I happened to drop into the episode of internal absorption during the second day of a retreat in a monastic setting.

Kobori-roshi stayed with his first koan for 6 years, 4 years of which were taken up by the second world war.

2600 years ago, in the concluding sections of the Buddha's important *Satipatthana Sutra*, he hinted that it might take a minimum of *seven* years or so before a substantial realization occurred. (If I'd been more diligent, and had engaged in more Zen retreats during the earlier decades, would it have taken me so long to experience the taste of kensho?)

9 In your published work you often write of Kobori Nanrei Sohaku, who was known as a *Rinzai roshi* (someone who has completed the entire Zen training program and is qualified to lead other monks during their training). Your affection and reverence for him is evident. Can you tell us a short anecdote about him?

A: Kobori-roshi initiated me both into a new way of living and into a novel dimension of neurology. He was a broad gauge exemplar of Rinzai Zen training. I owe him an immeasurable debt of gratitude.

You've limited me to one short anecdote. I'll choose an unforgettable moment when he taught me --- by *gesture* --- in the classical Zen mode. We were saying farewell, for the first time, back in Kyoto in late 1974. I expressed my disappointment at not having made any obvious progress with my first koan ("Where is one?") He encouraged me to keep working on it, saying "Break down through the 'where' of it, and then it will open up."

To illustrate, he then reached down to extend both arms into a long V. Pointing down and in with his fingers, he left a gap of 3 inches

between his fingertips. After the next 5 seconds or so of silence, he said: “A deep valley of the mind will open up like this. Once you go through one of these experiences, a valley is cut in the mind. It will stay open. Go into that opening.”

#10 What kind of music do you enjoy?

A: I whistled a lot of tunes as a kid, and sang in the episcopal choir until my voice changed. My other musical favorites were the Glenn Miller orchestrations, and the songs in *Porgy and Bess*. I started on the ukulele with college songs, then delighted in singing barbershop harmony with kindred souls in medical school. I composed a love song on the piano to my fiancé that was inspired by the haunting strains of ‘Laura’. What still delights me now more than classical music is good Dixieland jazz, especially the way it mixes creative individual improvisations with throbbing reunions of the whole ensemble.

11 Do you like to dance?

A: I enjoyed dancing in high school and college. After that, my greatest dancing satisfactions have come from learning how to move competently (despite laughable bungling) in large square dancing classes. However, watercolor painting, pottery, gardening, and tree planting have been more significant hobbies.

Roy's footnotes:

[1] [Rational Mysticism, Dispatches from the Border Between Science and Spirituality](#), John Horgan, Houghton Mifflin 2005, pp. 125 - 140

[2] [Zen and the Brain](#), James H. Austin M.D., MIT Press 1998

[3] This was a series of some fifty volumes published under the heading of *The Sacred Books of the East*, headed by Max Muller and

James Legge, published by Oxford University Press between 1879 and 1910. Many of them are available as free downloadable .pdfs at the Internet Archive: <https://archive.org/>

[4] There was a considerable backlash against Huxley's propositions at the time, most notably by R. C. Zaehner in his Mysticism, Sacred and Profane (Oxford, 1955) and Violet MacDermot's The Cult of the Seer in the Ancient Middle East (University of California Press, 1971).

Visit Dr. Austin's Website, here:

<http://www.zenandthebrain.com/>

His books are available at Amazon, and I highly recommend all of them:

https://www.amazon.com/Selfless-Insight-Meditative-Transformations-Consciousness/dp/0262516659/ref=sr_1_1?s=books&ie=UTF8&qid=1530224167&sr=1-1&keywords=James+H.+Austin+MD

https://www.amazon.com/Zen-Brain-Understanding-Meditation-Consciousness/dp/0262511096/ref=pd_bxgy_14_img_3?_encoding=UTF8&pd_rd_i=0262511096&pd_rd_r=PC40TNZTJPN12G8YX1ZZ&pd_rd_w=liuUO&pd_rd_wg=naRZP&psc=1&refRID=PC40TNZTJPN12G8YX1ZZ

https://www.amazon.com/Zen-Brain-Horizons-Toward-Living-Press/dp/0262528835/ref=pd_bxgy_14_img_3?_encoding=UTF8&pd_rd_i=0262528835&pd_rd_r=18121G4DTT615A1BJQ24&pd_rd_w=jtuYg&pd_rd_wg=Wuz1u&psc=1&refRID=18121G4DTT615A1BJQ24

https://www.amazon.com/Living-Zen-Remindfully-Retraining-Subconscious/dp/0262035081/ref=pd_bxgy_14_img_3?_encoding=UTF8&pd_rd_i=0262035081&pd_rd_r=0WX9KQHS64F9R

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https://www.amazon.com/Meditating-Selflessly-Practical-Neural-Press/dp/0262525194/ref=pd_sim_14_2?_encoding=UTF8&pd_rd_i=0262525194&pd_rd_r=CBESQ4GGGDP9JDJ7EPTM&pd_rd_w=uufMT&pd_rd_wg=20uwR&psc=1&refRID=CBESQ4GGGDP9JDJ7EPTM

https://www.amazon.com/Zen-Brain-Reflections-Press-James-Austin/dp/0262012235/ref=pd_sim_14_5?_encoding=UTF8&pd_rd_i=0262012235&pd_rd_r=6HXA1XWGNRKN0XAY0E1K&pd_rd_w=ew3Gg&pd_rd_wg=Rh0JE&psc=1&refRID=6HXA1XWGNRKN0XAY0E1K

https://www.amazon.com/Chase-Chance-Creativity-Lucky-Novelty/dp/0262511355/ref=pd_sbs_14_6?_encoding=UTF8&pd_rd_i=0262511355&pd_rd_r=ERNNSCFM2CP5DHF25H6C&pd_rd_w=UZb0W&pd_rd_wg=Lx3Tn&psc=1&refRID=ERNNSCFM2CP5DHF25H6C

There are a number of videos by and about him at You Tube; this is one of many:

<https://www.youtube.com/watch?v=wh8wZOLYluY>

I would like to thank Dr. Austin for his time and his genial humor throughout this interview.

Roy Waidler

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