

TANTRA OR YOGA. CLINICAL STUDIES, SECTION 2: TANTRA

TANTRA O YOGA. ESTUDIOS CLÍNICOS, 2ª PARTE: TANTRA

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Abstract

Several clinical studies show how exercises in Vedic traditions, such as Yoga, or Theravada or Mahayana Buddhism, as well as tantric practices, have a significant psychobiological impact. This study seeks the neurophysiological correlate of practices called tantric and non-tantric meditations through a qualitative systematic review of the data collected. Tantric practices were shown to increase sympathetic activity, "phasic alertness," and performance in cognitive-visual tasks. They promote greater wakefulness, decreased propensity to sleep, increased cognitive activity, and metabolic changes contrasting with those resulting from non-tantric practices due to the relaxation induced by such practices. Tantric practices create calmness and mental clarity, with enough energy and excitement to function effectively in the environment, managing irritability, stress, fatigue, fear, and anxiety. The spiritual experience of "awakening" and "self-realization" has a neurofunctional and anatomical correlate of neuroplastic modifications that create new levels of sensitivity, perception, and self-perception.

Resumen

Varios estudios clínicos realizados muestran cómo las prácticas tántricas así como los ejercicios de las tradiciones védicas, como el yoga, o budistas *theravada* o *mahayana*, tienen un impacto psicobiológico significativo. Este estudio busca el correlato neurofisiológico de las prácticas llamadas meditaciones tántricas y no-tántricas mediante una revisión sistemática cualitativa de los datos recolectados. Se

evidenció que las prácticas tántricas producen un aumento en la actividad simpática, del estado de «alerta fásica» y en el rendimiento en tareas cognitivas visuales. Promueven una mayor vigilia y menor propensión al sueño, generan un incremento en la actividad cognitiva y modificaciones metabólicas contrarias a las que se verifican de las no-tántricas como consecuencia del relax inducido por esas prácticas. Las prácticas tántricas producen un estado de calma y claridad mental, con la energía y excitación suficiente para funcionar en el entorno con eficacia en el manejo de la irritabilidad, la tensión y la fatiga, al igual que el manejo del miedo y de la ansiedad. La experiencia espiritual «del despertar» y de la «autorrealización» tienen su correspondencia neurofuncional y anatómica, de modificaciones neuroplásticas que desarrollan un nuevo nivel de sensibilidad, percepción y autopercepción.

Keywords: Clinical studies; tantra; Buddhism; Vajrayana; Hindu; meditation; EEG; ECG; fMRI; neuroimaging; neurophysiology; immunology; endocrinology

Palabras Claves: Estudios clínicos; tantra; budismo; vajrayana; hinduismo; meditación; EEG; ECG; fMRI; neuroimagen; neurofisiología; inmunología; endocrinología

Introduction – Part Two

As mentioned in the first part, unlike the scriptures and meditation instructions of the Vedic tradition, Yoga, Theravada, or Mahayana, which were widely disseminated and aim to achieve **stillness and calm**, the tantric scriptures—"**reserved only for rulers**"—aim to increase alertness and warn against excessive calm (Rinpoche, 1999). Tantric practices do not cultivate relaxation but a state of maximum alertness (Corby, 1978). That is, being conscious and awake (Amihai, 2014). For this reason, having opposite objectives, they would also have opposite results.

This highlights the philosophical, social, and cultural consequences of these different types of tantric and non-tantric meditations.

This review compiles the available scientific evidence regarding the possible neurophysiological correlates of tantric practices to confirm, with this evidence, that the objectives of each group are met and to verify if the physiological results reflect this same theoretical opposition.

Through clinical studies, it is shown how tantric practices create better cognitive and physiological responses: increased arousal and "phasic alertness" (Amihai, 2014) while significantly reducing stress levels (Batista, 2014), in contrast to the results obtained from non-tantric meditation types.

This study shows the psychobiological consequences of these two groups of philosophies and practices. Non-tantric philosophies, being exoteric in nature¹, were widely disseminated, so most people are familiar with their principles and techniques. This is not the case with tantric philosophy and practices, as they are esoteric and "reserved only for rulers," and few know them as they truly are.

¹ As stated in the *Diccionario de la Real Academia Española (DRAE)*: **Exoteric** = Common, accessible to the general public, as opposed to esoteric.

This review has been divided into three topics. In the first part, the neurophysiological correlates of the results of meditative practices derived from Yoga and Theravada and Mahayana Buddhism were reviewed. In this second part, the results of tantric practices are reviewed, and in the third part, they are compared.

To continue the line of research outlined in the first part and extend it to the social and individual consequences of these different practices, we will present esoteric Tantrism, its differences with other philosophies, its objectives, and the techniques developed to achieve them. Then, we will present the corresponding neurophysiological results of tantric constructions and practices.

Methodology

A qualitative systematic review of available studies on the neurophysiological consequences of meditations practised within esoteric Hindu Tantrism and Buddhist Tantrism or Vajrayana. A bibliographic search was conducted using the following keywords: meditation, tantra, tantrism, tantric, Buddhism, esoteric, Tibetan, Vajrayana, Hindu. Each keyword was searched individually and combined using the appropriate Boolean connector with each of the following keywords: EEG, ECG, fMRI, neuroimaging, neurophysiology, immunology, and endocrinology. The search was conducted in both Spanish and English, using the following platforms: MEDLINE (PubMed), ISI Web of Knowledge, TripDatabase, Cochrane Library, and the references of the consulted articles were also exhaustively analysed. The search included articles published before May 2017.

There is a wide variety of techniques referred to as "meditation," with such diverse forms and objectives that it is impossible to create

taxonomies that encompass them all. Therefore, we suggest that future research use the term "exercises" for Yoga, Mahayana, Theravada, Vipassana, or tantric practices. For this research, we will refer to tantric meditation techniques as those originating from esoteric Hindu Tantrism and esoteric Buddhist Tantrism or Vajrayana, and non-tantric techniques as the rest of the meditation forms.

Development – Part Two: Tantric Practices

Tantrism began to develop in an India (Lorenzetti, 1992) whose political system established different types of people (Akira, 1993), social castes, perpetuated in power or slavery depending on the caste into which they were born "reincarnated." For each caste, different laws and practices (Zimmer, 1953), rights, and obligations (Samuel, 2008) were established.

Faced with this extreme condition of social inequality, Mahavira—precursor of Jainism (Glasenapp, 1999)—and Buddha, if he existed (Gómez, 2017), first constructed an epistemology, a method for finding the truth—which at the time was considered revealed—²and both concluded that reality does not exist, that it is a cultural construction, and that the truth is what they individually see with their own eyes (Capra, 2000). Therefore, there is no true reality but a particular vision of reality. Then, with more rigour and political possibilities than Descartes, they systematically destroyed all revealed truths to establish a notion of the subject emancipated from mythological gods and equal at birth, thus without a priori existence (Gómez, 2016).

² We note in this study: "Vipassana refers to the understanding of the 'true nature of reality,' which is combined with the pacification of the mind" (Bodhi, 2012).

We want to highlight that the Hindu conception, upheld to this day by those who disseminate the philosophy of Yoga, Theravada, and Mahayana, of reincarnation excludes the possibility of social equality³.

Based on these foundations, the so-called tantric texts were written. In India, under the patronage of the Sailendras, they gave rise to the Kaula school, which lasted until the 13th century in India. For those who attributed the authorship of these texts to Buddha, Buddhism was expelled from India and took refuge in Southeast and Central Asia and Tibet until 1959 (Acri, 2016) (Chhaya, 2009).

These two tantric schools, Kaula and Buddhist, developed a new non-theistic model of thought (Gómez, 2016) and constructed the notion of the subject not divided into body and soul, thus equal at birth. This notion allows anyone to elevate their human condition, as read in the "Pancha Tantra" and the "Kularnava Tantra" (Vishnu, 1949) (Wilson, 1826) (Shiva, 7th century AD) (Gómez, 2017).

From this conception, they proposed liberation for people but from the chains of ignorance and superstitions to which they were subjected by the political system. They proposed awakening individuals one by one. And they proposed for everyone the possibility of modifying their social condition and transforming themselves. Achieving self-realization beyond the deterministic notions of social castes.

³ If a being exists before birth, and if that being is born into a lower caste, they are enslaved for life and considered different from someone who reincarnates into a higher caste. This is the case of the current XIV Dalai Lama, leader of the Tibetan people in exile and the highest living authority of Tibetan Tantric Buddhism, whose earthly and spiritual power is based on the belief that he is the reincarnation of his predecessor. Although the Dalai Lama constantly states that he is a simple Buddhist monk and gives subtle hints—such as expressing that his compassionate character is due to spending his entire childhood with his mother and not his father (he does not say, "because I am the incarnation of the Buddha of Compassion, the ocean of infinite wisdom," nor does he pronounce the rest of his title)—he must uphold the belief in reincarnation. If he were to publicly state that people are equal, that reincarnation does not exist, and that he is not the reincarnation of the XIII Dalai Lama, he would have to resign and immediately abandon his claims for Tibetan independence, which, since 1959, rightfully belongs to China (See Dalai Lama, 2007).

In this way, the conceptual differences in the word "liberation" for exoteric Hindu and Buddhist philosophies and for tantric philosophy become clear. Moksha, "*spiritual liberation*," for Vedic philosophy, and Mukti, "*liberation from a heavy yoke, from a burden, from slavery*," for esoteric tantric texts⁴ (Gómez, 2017).

The former aimed to liberate the lower castes from suffering by developing karmic explanations so they would understand that their pain and humiliation are a direct consequence of their own actions in past lives, which they must accept with approval to "spiritually evolve" and have a better reincarnation in the next life, along with exercises to achieve relaxation and mental stability under these oppressive conditions.

The latter, tantric philosophy, sought liberation but from slavery. It sought to enlighten—first by educating and then by enlightening—to bring people to the same condition of humanity and dignity, regardless of their birth condition. And it developed techniques to achieve this goal. Meditative techniques—reflective to understand the condition of human equality, cultural conditioning, and how to overcome them—(Yeshe, 1987) and meditations—and here the word "meditations" should urgently be replaced by "exercises"—such as deity meditation, Rig-pa, g-tummo meditation, and opening meditation, which were used in this research for tantric training programmes (Gómez, 1996).

As we have shown, tantric and non-tantric practices have little in common. The common aspect between these two, and their different procedures, is that both aim to modify the behavioural, cognitive, and physiological patterns of practitioners. However, given the significant differences in the procedures used in these exercises and the results

⁴ **DRAE** (Diccionario de la Real Academia Española): Esoteric = Hidden, reserved. Referring to a doctrine: Transmitted orally to initiates. Referring to an ancient doctrine: Transmitted by philosophers only to a select number of their disciples.

obtained from the practices, we point out the widespread error of conducting comparative clinical trials between the two to determine the mechanisms and neurophysiological results of both tantric and non-tantric meditation techniques (Travis, 2010). Therefore, in this second part, the results of clinical research on tantric practices are analysed.

Unfortunately, very few scientific studies have been conducted exclusively on Hindu and Buddhist tantric meditation techniques (Wilson, 1826) (de Mora Vaquerizo, 1988) (Harper, 2002) (Brooks, 1992).

The vast majority have focused on those that proliferated in the West from the New Age, Vedic schools such as Yoga, or exoteric Buddhist or Hindu Tantrism⁵, since, as we have mentioned, not only is the true philosophy of Tantrism unknown⁶, but so are its internal practices⁷. For this reason, we will briefly explain what tantric meditations consist of.

Among the tantric practices, we will first study deity meditation, Rigpa, and g-tummo, concluding with opening meditation, as described in the "Kularnava Tantra," the "Kalachakra Tantra," and other unclassified texts that until a few years ago were still available in the tantric monastery of Gyuto in exile (Shiva, 7th century AD) (Dalai Lama, 1984).

The so-called "self-generation as a deity," emerging as a deity—as described by Yeshe (1987)—and generalised as deity meditation, originated in Hindu and Buddhist tantric traditions in India and was later

⁵ Magical-mystical fabrications created by Hindu and Buddhist "gurus" and widely disseminated to deceive the unsuspecting (Chhaya, 2009) (see Part 1 of this study, Appendix 1b).

⁶ Here, the term "real" does not refer to the notion of truth. It refers to its character of being reserved for royalty.

⁷ For only a brief period, between the mid-1980s and early 1990s, His Holiness the XIV Dalai Lama decided to break the seals protecting the knowledge of royal tantra, much like a ruler today who, with the consent of Congress, declassifies a state secret. He did so without the approval of the Tibetan court in exile. After two assassination attempts against his life for questioning the business of "spiritual leaders," he resealed the tantric secret (Chhaya, 2009). Those of us who conducted this study have the privilege of having had, and still having, on our team of collaborators, some of those few initiates who insist on disseminating tantric philosophy without reservations, pettiness, or fear.

adopted by Tibetan Buddhism (Snellgrove, 2003). The practice involves maintaining focus on an internally generated image of a deity surrounded by its environment.

The content of deity meditation is rich and multimodal, requiring the generation of colourful three-dimensional images, such as the deity's body, ornaments, and environment, as well as sensorimotor body schema representations—such as in the case of kinkara—(Gómez, 2012) and the deity's feelings and emotions. The image temporarily replaces the sense of self and the internal perception of the real world (Gyatrul, 1996). In Tantra, the visualisation of oneself as a deity is related to the generation or development stage, which is the first stage of meditation practice (Sogyal, 1990).



Trailokyavijaya: One of the meditational deity images. It is the equivalent of the Hindu deity Vidharaja and represents the Lord of Knowledge. In two of his hands, he carries a vajra and a bell, and at his feet lie the defeated bodies of Shiva and Shakti. © Wikimedia.

Another tantric practice is Rig-pa meditation—concrete knowledge or clear knowledge—which follows the final stages of deity meditation and represents the completion stages of meditative practice (Tulku, 1999). The meditator visualises the dissolution of the deity and their entourage into emptiness and aspires to achieve awareness devoid of dualistic

conceptualisations of a discursive nature (Yeshe, 1987) (Dalai Lama, 1994) or pre-conceptions, a priori judgments.

While practising Rig-pa, the practitioner tries to distribute their attention evenly so that it is not directed toward any object or experience. Although various aspects of experience may arise, such as thoughts, feelings, images, or sensations, the meditator must let them flow without stopping to examine or dwell on them (Wangyal, 1993) (Goleman, 1996). Rig-pa is considered a meditative practice without a meditation object; it does not require noting or observing the content of attention or the activity associated with the dual mind but simply being fully aware of it (Tulku, 1999).

Another tantric practice included in this research is the so-called "inner heat." The g-tummo meditation practice, aimed at controlling "internal energy," is described by Tibetan practitioners as one of the most secret spiritual practices in the Indo-Tibetan traditions of Vajrayana Buddhism and Bon (Dalai Lama, 1994). It is also called the "inner heat" practice (Yeshe, 1997) because it is associated with descriptions of intense sensations of body heat along the spine (Gómez, 2008).

The g-tummo practice is characterised by a special breathing technique accompanied by isometric muscle contractions, where, after inhalation, during a very brief period of breath retention (apnoea), practitioners contract their abdominal and pelvic muscles (Evans-Wentz, 2002). While performing three quick, deep inhalations, attention is focused on visualising an ascending flame that begins below the navel, in the pelvis, and rises to the crown of the head with each inhalation. Then, calming the breath, the practitioner visualises and cultivates the sensation that the entire body is filled with bliss and warmth (Yeshe, 1987).

Pioneering and significant studies on these tantric practices include those by Benson between 1971 and 1990 and those conducted by the Argentine Association of Psychobiological Research between 1993 and 2001, following the research line of Reich (1945) and Benson himself. We will not consider Reich's conclusions because, after conducting his clinical trials, he attributed the physiological consequences of Tibetan Buddhist tantric practices to the production of what he called "*love energy*" or "*orgone energy*" (Reich, 1955), as the measurement instruments of the time did not allow sufficient amplification to validate it as a measurable electrical current in nanovolts⁸.

One of these studies clearly demonstrated that the meditative practices of the Vajrayana traditions—Tibetan Buddhist Tantra—and Hindu Tantra induce a state of arousal rather than relaxation (Benson, 1990).

In contrast to relaxation, arousal is a physiological and psychological state of being "awake" and reactive to stimuli (Kozhevnikov, 2009). It is characterised by increased activity of the sympathetic system, followed by the release of epinephrine and norepinephrine from the endocrine system (Camm, 1996), resulting in the state of "phasic alertness" (Petersen, 2012) (Sturm, 1999). That is, a significant temporary boost in the ability to respond effectively to stimuli (Weinbach, 2011).

Moreover, while tonic alertness can occur simultaneously with relaxation, the state of "phasic alertness" results from increased activity of the sympathetic system and is therefore inconsistent with the state of relaxation.

⁸ As we mentioned, it was only in 1993, within the Argentine Association of Psychobiological Research and using a computer with a state-of-the-art ADQ12 data acquisition card, that we were able to perform an analog-to-digital conversion with a programmable high-gain amplifier, allowing us to record signals that were previously unmeasurable, as in Reich's research.

We wish to highlight that, despite the nature of this "non-specific energy" described by Reich being known today—which is simply the biological electrical potential—"orgone therapy" or a pseudoscientific technique called bioenergetics is still being offered, in which they continue to claim that the energy in question is orgone.

Tantric meditations thus produce an increase in "phasic alertness" and, specifically, deity meditation generates an immediate and substantial improvement in performance on cognitive-visual tasks, consistent with the state of arousal and sympathetic activation (Brefczynski-Lewis, 2007).

One study, which included control subjects, states: "Practitioners of deity meditation demonstrated a dramatic increase in performance on imagery tasks compared to the control group. The results suggest that deity meditation significantly enhances the practitioner's ability to access visuospatial processing resources" (Kozhevnikov, 2009).

Other studies show in the collected results that Vajrayana practices, specifically g-tummo, in addition to increasing sympathetic system activity and generating an arousal response (Benson, 1982), also produce an increase in body temperature (Kozhevnikov, 2013), which also indicates a sympathetic response.

By attaching a small thermometer to the armpits of highly experienced g-tummo meditators with 6-32 years of experience, Kozhevnikov et al. (2013) were able to demonstrate for the first time that g-tummo meditators increase not only their peripheral temperature but, more importantly, their core body temperature during meditation, showing that the activity of the sympathetic nervous system increases significantly as a result of this practice.

In particular, the thermogenesis induced during g-tummo was so significant that it raised the meditators' body temperature above the normal range and into the range of mild or moderate fever—up to 38.3 °C—reflecting an increased arousal response due to sympathetic activation. The generation of body heat without external heat—

thermogenesis—is mediated by the sympathetic nervous system (Morrison, 2011).

In humans, thermogenesis is primarily caused by brown adipose tissue, which diverts energy obtained from the oxidation of free fatty acids into heat, which is then distributed throughout the body via the vasculature of the adipose tissue.

It is important to note that the activity of brown adipose tissue in humans is stimulated by the sympathetic nervous system, and this is what leads, from the brown adipose⁹ tissue, to g-tummo-induced thermogenesis.

The study by Kozhevnikov (2013) on the tantric meditation called g-tummo and how it allows for an increase in body temperature was conducted in monasteries in eastern Tibet with expert meditators while they performed g-tummo practices, measuring armpit temperature and electroencephalographic (EEG) activity.

It has long been recognised that an increase in body temperature, at the threshold of a mild fever as produced during g-tummo, is associated with a heightened state of alertness, faster reaction times, and improved cognitive performance in tasks such as visual attention and working memory (Wright, 2002).

So far, it has been verified that the psychophysiological result of the tantric meditations called g-tummo, deity meditation, and Rig-pa consists of an increased capacity for "phasic alertness," enhanced cognitive activity, and metabolic changes contrary to the results of relaxation and in line with the philosophical postulates of Tantrism. It

⁹ In biology, **brown fat** is one of the types of adipose tissue or fatty tissue—the other being white fat. Brown fat exists in most mammalian species, has specific characteristics, and performs different functions than white fat. Its primary function is thermogenesis, that is, the production of heat in response to cold temperatures. In hibernating animals, brown fat produces energy during the winter period to keep the body warm and enables the regulation of body temperature during the awakening process (Enerbäck, 2009).

could be inferred that this increase in arousal would, in turn, elevate stress symptoms.

However, a study conducted at the Stress Studies Laboratory of the Department of Structural and Functional Biology at the University of Campinas, São Paulo, Brazil, and the Metabolic Unit of the Faculty of Medical Sciences at the University of Campinas, São Paulo, Brazil, shows that, in the short term, a tantra yoga programme¹⁰ led to a decrease in cortisol production, and in the long term, it induced higher cortisol production in the morning and lower production in the evening.

These effects contributed to the physical and mental well-being of the participants (Batista, 2014).

The objective of the study was to evaluate the acute and chronic effects of tantra yoga practice.

A quantitative study using a pre-post-test group design was conducted. Twenty-two volunteers (7 men and 15 women) participated, taking a tantra yoga programme for six weeks, with 50-minute sessions twice a week, always at the same time in the morning.

Data were collected in the first week and at the end of the sixth week of the programme. Salivary cortisol concentration (SCC) was used to measure the physiology of distress and analyse the short- and long-term effects of tantric meditations. Psychological distress was assessed using the Perceived Stress Questionnaire (PSQ)¹¹. The results (mean \pm standard deviation) were analysed using the Wilcoxon test ($p < 0.05$).

¹⁰ Here, the word **yoga** has no conceptual similarity with the techniques known as yoga practices. Instead, it refers to the concept of a "path." Saying "tantric yoga" is equivalent to saying "tantric path" or "tantric way."

¹¹ The effect that stressful situations have on the course of certain diseases is one of the cornerstones of psychosomatic medicine, although to date no consensus has been reached on how to measure such situations or with what tools. To provide a useful tool for this purpose, Levenstein (1993) developed the **Perceived Stress Questionnaire (PSQ)**. It is a self-administered instrument consisting of 30 items, scored on a 4-point Likert scale (1 = almost never, 4 = almost always). The questionnaire is administered twice: once—**General**—referring to the patient's situation over the past

The research yielded the following results: SCC decreased by 24% after the first week ($0.66 \pm 0.20 \mu\text{g/dL}$ vs. $0.50 \pm 0.13 \mu\text{g/dL}$) and the last week (1.01 ± 0.37 vs. $0.76 \pm 0.31 \mu\text{g/dL}$), showing the short-term stress-reducing effect of tantric yoga practice.

The long-term effects were analysed by the daily rhythm of cortisol production. Initially, volunteers showed altered SCC during the day, with nighttime values (0.42 ± 0.28) higher than midday values (0.30 ± 0.06). After the programme, SCC was higher in the morning (1.01 ± 0.37) and decreased during the day, with the lowest values before sleep (0.30 ± 0.13). Training in tantric meditations was also effective in reducing PSQ scores (0.45 ± 0.13 vs. 0.39 ± 0.07). Specifically, the management of irritability, tension, and fatigue in the PSQ decreased (0.60 ± 0.20 vs. 0.46 ± 0.13), as did the management of fear and anxiety (0.54 ± 0.30 vs. 0.30 ± 0.20).

As evidenced by this research, tantric techniques result in a greater capacity for alertness and responsiveness but from a state of calm and mental clarity.

The final form of tantric meditation we will investigate is the so-called "openness meditation." This form of meditation does not directly focus on a specific object but cultivates a state of being. In this same vein are deity meditation and g-tummo. Openness meditation is practised in such a way that the intentional aspect, the object-oriented focus of the experience, seems to dissipate in the meditation.

By training their emotional and behavioural mechanisms to detach from the apparent object of their initial intention, by training toward a goal they know a priori they will not achieve or that lacks importance,

one or two years; and another—**Recent**—referring to the patient's situation over the past month. In both cases, an index is obtained, which can range from 0 (indicating a very low level of perceived stress) to 1 (indicating a very high level of perceived stress) (Rush, 2000).

practitioners train their system to enjoy the action itself, independent of the result. This training aims to enable people who "live for the desire for pleasure" to "live for the pleasure of desire" (Gómez, 2008).

This dissipation of focus on a particular object is achieved by allowing the very essence of the meditation being practised—such as compassion—to become the sole content of the experience, without focusing on specific objects.

Using techniques similar to deity meditation, during the practice, the practitioner lets their feeling of kindness and compassion or the emotional or attitudinal essence of a role model permeate their mind without directing their attention toward a particular object (Dalai Lama, 1994).

A significant study on this form of tantric meditation was conducted by Lutz (2004) and involved eight advanced Buddhist tantric practitioners, with an average age of 49 ± 15 years, and 10 healthy volunteer students with an average age of 21 ± 1.5 years. The Buddhist practitioners underwent mental training in the same Tibetan traditions of Nyingmapa¹² and Kagyupa¹³ for 10,000 to 50,000 hours over periods ranging from 15 to 40 years.

The control subjects had no prior meditative experience but had expressed interest in meditation. The controls underwent meditative training for one week before data collection.

An initial baseline electroencephalogram (EEG) was collected, consisting of four blocks of 60 seconds of continuous activity with a balanced random order of eyes open or closed for each block. Then, the

¹² Founded by Padmasambhava in Tibet in the 8th century.

¹³ Followers of this tradition claim that their lineage traces back to Tilopa, born in Bengal at the end of the 10th century.

subjects generated three meditative states, only one of which is included in this research.

During each meditation session, a 30-second block of resting activity and a 60-second block of meditation were collected four times sequentially.

The subjects were verbally instructed to begin meditation and meditate for at least 20 seconds before the start of the meditation block.

The study focused on the final objectless meditative practice, "openness meditation," during which both controls and Buddhist practitioners generated a state of "unconditional love, kindness, and compassion."

The meditative instruction was: "*Generate internally the state of unconditional love and compassion,*" described as an "*unrestricted willingness and availability to help living beings.*"

This practice does not require concentration on specific objects, symbols, or mandalas—images—; practitioners focus on people or groups of people (Gómez, 1996).

Because benevolence and compassion permeate the mind as a way of being, this state is called "pure compassion" or "non-referential compassion" (Lutz, 2004).

One week before data collection, meditative instructions were given to the control subjects, who were asked to practise daily for one hour. The quality of their training was verbally assessed before the EEG recording.

During the training session, control subjects were asked to think of someone they cared about, such as their parents or loved ones, and let their mind be filled with a feeling of love or compassion, "imagining a sad situation and wishing to be free from suffering and seeking well-being for

those involved." After some training, the subjects were asked to generate such feelings toward all sentient beings without thinking specifically of anyone in particular.

During the EEG data recording period, both controls and experienced practitioners tried to generate this non-referential state of kindness and compassion. During neutral states, all subjects were asked to be in a non-meditative and relaxed state.

This research showed a significant increase in gamma frequency range activity (<25-70 Hz)¹⁴ during the generation of the meditative state of compassion.

The high-amplitude gamma activity found in some of these tantric practitioners is the highest reported in the scientific literature in a non-pathological context (Baldeweg, 1998).

The gradual increase in gamma activity during meditation aligns with the view that neural synchronisation, as a network phenomenon, requires time to develop, proportional to the size of the synchronised neural assembly. However, this increase could also reflect an increase in the temporal precision of thalamocortical and corticocortical interactions rather than a change in the size of the assemblies (Singer, 1999).

This gradual increase also corroborates the verbal reports of the Buddhist subjects regarding the timing of their practice. Typically, the transition from a neutral state to this meditative state is not immediate

¹⁴ Gamma waves are fast, high-frequency, rhythmic brain responses that have been shown to reach their highest levels when higher cognitive processes are active. Research in adults and animals has suggested that lower levels of gamma power could impair the brain's ability to efficiently package information into coherent images, thoughts, and memories. However, until now, little was known about the developmental course of gamma waves in children.

By analysing electroencephalograms (EEGs) of children, Benasich and colleagues found that those with higher cognitive and language skills exhibited greater gamma wave power than those who scored low on cognitive and language tests. Similarly, children with better attention and inhibitory control (the ability to moderate or restrain themselves, avoiding behaviours they have been asked not to engage in) also showed high levels of gamma waves. There were no differences in gamma power based on gender or socioeconomic status (Benasich, 2008).

and requires 5-15 seconds, depending on the subject. The endogenous gamma-band synchrony found here could reflect a change in the quality of moment-to-moment awareness, as claimed by Buddhist practitioners and postulated by many models of consciousness (Tononi, 1998) (Engel, 1999).

Posner found a difference in the normative EEG spectral profile between the two groups during the resting state before meditation. It is not unexpected that such differences are detected during a resting baseline, as the goal of meditation practice is to transform the initial state and diminish the distinction between formal meditation practice and daily life. This study is also consistent with the idea that attention and affective processes, which may reflect gamma-band EEG synchronisation, are flexible skills that can be trained (Posner, 1997).

Summary of Results of Tantric Meditations

Our research yielded the following results for the forms of meditation encompassed under the term "tantric":

1. Produce an increase in sympathetic system activity, followed by the release of epinephrine and norepinephrine from the endocrine system.
2. Induce a state of arousal rather than relaxation.
3. Generate an increase in "phasic alertness" and, specifically, deity meditation produces an immediate and substantial improvement in performance on cognitive-visual tasks.
4. Create a state of relaxed alertness, protecting the system against the extremes of hyperactivity—excitement, restlessness, anxiety—and hypotonia—laxity, drowsiness, sleep.

5. Promote greater wakefulness and reduced propensity for sleep, especially as the practice advances.

6. Generate increased cognitive activity and metabolic changes, contrary to the relaxation produced by non-tantric practices.

7. Produce an increase in peripheral and core body temperature.

8. Substantially reduce stress in the short term, and this reduction is sustained without the need to continue the practice. In the long term, the system of a subject undergoing brief training induces higher cortisol production in the morning and lower production in the evening.

9. Have effects, verified through the PSQ, that contribute to the physical and mental well-being of subjects who underwent a 12-week training programme.

10. Produce neural synchrony, particularly in the gamma frequency range (25-70 Hz), involved in mental processes such as attention, working memory-learning, and conscious perception. It was found that:

The high-amplitude gamma activity observed in some of these tantric practitioners is the highest reported in the scientific literature in a non-pathological context.

11. Rig-pa meditation allows the practitioner to develop awareness of their own consciousness, building an early warning system against impulsive negative actions.

12. Deity meditation significantly enhances the practitioner's ability to access all visuospatial processing resources and improves cognitive and affective competencies. It develops a new level of sensitivity,

perception, and self-perception, as well as an increase in compassion for other beings. This is verified after a one-week training programme.

Conclusion of Part Two

As evidenced by this study, tantric techniques result in a greater capacity for alertness and responsiveness but from a state of calm, mental clarity, and sufficient energy and excitement to function effectively in the environment, managing irritability, stress, fatigue, fear, and anxiety.

Among the results observed, the most significant are the state of arousal and "phasic alertness"—produced by deity meditation and g-tummo—and the mental calm induced by Rig-pa practice.

The construction of arousal is complex and multidimensional, with multiple distinct but overlapping inputs, including cortical, autonomic, endocrine, cognitive, and affective systems (Derryberry, 1988).

While other studies have focused more on somatic forms of arousal, such as Holmes (1984), we focus on the cognitive dimensions of arousal, which refer to wakefulness and alertness.

Thus, tantric practice engenders greater and prolonged wakefulness, which may be an indicator of neuroplastic changes produced by tantric practices (Britton, 2014).

In this sense, "awakening" is not a metaphor but rather an interactive process of neuroplastic modifications and increased efficiency that develops a new level of sensitivity, perception, and self-perception (Britton, 2014). We also conclude that, in tantric practices, "self-realization" is not a metaphor either. It is the possibility for a trained individual to become what they desire to be, to actualize themselves.

Additionally, Rig-pa meditation allows the practitioner to develop awareness of their own consciousness, building an early warning system before the practitioner performs an impulsive negative action (Becerra, 2011).

Recent studies report that raising body temperature through g-tummo practice could be an effective way to boost immunity and treat infectious diseases and immunodeficiencies (Singh, 2006), as well as induce synaptic plasticity in the hippocampus (Masino, 2000).

Therefore, a deeper understanding of the mechanisms underlying the increase in body temperature during g-tummo practice could lead to the development of effective self-regulatory techniques in "ordinary" individuals—for example, non-meditators—to regulate their neurocognitive functions and combat infectious diseases. We suggest clinical studies focused on this tantric practice, g-tummo, with expert subjects and control subjects, to develop simple and effective clinical application techniques.

Regarding the tantric meditation called "openness meditation," which has as its psychobiological correlate an increase in gamma-band frequencies, we found that several clinical studies show the general role of neural synchrony, particularly in gamma frequencies (25-70 Hz), in mental processes such as attention, working memory-learning, and conscious perception (Fries, 2001) (Rodríguez, 1999).

It is believed that such synchronizations of oscillatory neural discharges play a crucial role in the constitution of transient networks that integrate distributed neural processes into highly ordered cognitive and affective functions (Singer, 1999) and may induce synaptic changes (Paulsen, 2000).

Neural synchrony emerges here as a promising mechanism for studying the brain processes involved in this tantric meditation.

Furthermore, Gusnard and Raichle (2001) have highlighted the importance of characteristic patterns of brain activity during the resting state and argue that such patterns affect the nature of changes induced by an activity. The differences in baseline activity reported here suggest that the brain's resting state can be altered by long-term meditative practice and imply that such alterations may affect meditation-related changes.

Therefore, more research, particularly longitudinal research, following individuals over time in response to tantric training, should be conducted.

Based on the results obtained, we propose the following:

1. Conduct further studies on techniques involving trained subjects and control subjects to rapidly disseminate findings within the scientific community, as we agree with Zeidan's (2014) idea that "if the benefits of the technique can be produced after a brief training period, then patients may be more inclined to practise, and clinicians may be less reluctant" to recommend tantric practices to their patients.

2. Conduct longitudinal clinical research to establish the long-term effects of these practices, both the desired effects demonstrated in this study and potential adverse side effects.

3. Create postgraduate training programmes in this discipline and incorporate them into formal clinical practices.

4. Incorporate tantric training into formal education, especially at initial levels—as effective programmes for personal growth, emotional management, and attentional control—which can then be replicated in society, as evidenced by neurophysiology and EEG and fMRI recordings,

which show that tantric practices increase non-distracted attention, cognitive competencies, and levels of compassion for others.

Regarding this last point, we want to emphasize that sufficiently validated studies, starting with Posner (1997), demonstrate, without error, that attention, conscious control of attention, and affective processes are flexible skills that can be trained.

References

- Acri A. (2016) «Chapter 1. Introduction: Esoteric Buddhist Networks along the Maritime Silk Routes, 7th– 13th Century AD», in *Esoteric Buddhism in Mediaeval Maritime Asia: Networks of Masters, Texts, Icons*, Singapore: ISEAS Publishing, 2016, pp. 1–26.
- Akira, Hirakawa (1993), Paul Groner, ed., *History of Indian Buddhism*, Translated by Paul Groner, Delhi: Motilal Banarsidass Publishers
- Amihai I., Kozhevnikov M. (2014). Arousal vs. Relaxation: A Comparison of the Neurophysiological and Cognitive Correlates of Vajrayana and Theravada Meditative Practices. *PLoS ONE*, 9(7), e102990. <http://doi.org/10.1371/journal.pone.0102990>
<https://www.ncbi.nlm.nih.gov/pubmed/25051268>
- Baldeweg T, Spence S, Hirsch SR, Gruzelier J. (1998) Gamma-band electroencephalographic oscillations in a patient with somatic hallucinations. *The Lancet* Volume 352 , Issue 9128 , 620 – 621
- Batista JC, Souza AL, Ferreira HA, Canova F, Grassi-Kassisse DM (2014). “Acute and Chronic Effects of Tantric Yoga Practice on Distress Index” in *J Altern Complement Med*. 2015 Nov;21(11):681-5. doi: 10.1089/acm.2014.0383. Epub 2015 Aug 6.
<http://www.ncbi.nlm.nih.gov/pubmed/26248115>
- Becerra, Gastón (2011). «Tantric buddhism in Buenos Aires: A case study of secular religiosity among young people.». *The International Journal of Religion and Spirituality in Society*. 1 (2), 97-102. <http://ijn.cgpublisher.com/product/pub.200/prod.25>
- Benasich, A. A., Gou, Z., Choudhury, N., & Harris, K. D. (2008). Early Cognitive and Language Skills are Linked to Resting Frontal Gamma Power Across the First Three Years. *Behavioural Brain Research*, 195(2), 215–222.
<http://doi.org/10.1016/j.bbr.2008.08.049>
- Benson H., Lehmann J. W., Malhotra M. S., Goldman R. F., Hopkins J., Epstein M. D. (1982) Body temperature changes during the practice of g Tum-mo yoga. *Nature*. 1982;295(5846):234–236. doi: 10.1038/295234a0.
- Benson H, Malhotra MS, Goldman RF, Jacobs GD, Hopkins PJ (1990) Three case reports of the metabolic and electroencephalographic changes during advanced Buddhist meditation techniques. *Behavioral Medicine* 16(2):90-5 • January 1990
DOI:10.1080/08964289.1990.9934596
<http://www.ncbi.nlm.nih.gov/pubmed/2194593>
- Bodhi B (2012) *The numerical discourses of the Buddha: a translation of the Anguttara Nikaya*. Boston, U.S.A.: Wisdom Publications. pp. 1287–1288 (IV.1410).

- Brefczynski-Lewis J.A., Lutz A., Schaefer H.S., Levinson D.B., Davidson R.J. (2007). Neural correlates of attentional expertise in long-term meditation practitioners. *Proceedings of the National Academy of Sciences, USA*, 104, 11483–11488
- Britton, W. B., Lindahl, J. R., Cahn, B. R., Davis, J. H., & Goldman, R. E. (2014). Awakening is not a metaphor: the effects of Buddhist meditation practices on basic wakefulness. *Annals of the New York Academy of Sciences*, 1307(1), 64-81.
- Brooks, D. R. (1992). *Auspicious Wisdom: The Texts and Traditions of Srividya Sakta Tantrism in South India*. State University of New York Press, ISBN 9780791411469.
- Camm A. J., Malik M., Bigger J. T., Breithardt G., Cerutti S., Cohen R. J. (1996) Heart rate variability—standards of measurement, physiological interpretation, and clinical use. *Circulation*. 1996;93(5):1043–1065
- Capra, F. (2000). *El Tao de la Física*. Sirio.
- Corby J. C., Roth W. T., Zarcone V. P., Jr., Kopell B. S. (1978) Psychophysiological correlates of the practice of Tantric Yoga meditation. *Archives of General Psychiatry*. 1978;35(5):571–577. doi: 10.1001/archpsyc.1978.01770290053005.
- Chhaya, M. (2009). *Dalai Lama. Hombre, monje, místico*. Grijalbo.
- Dalai Lama & HOPKINS, J. (1994). *El tantra de Kalachakra: rito de iniciación*. Alicante: Dharma.
- Dalai Lama (2007) Barcelona. Conferencia grabada en Barcelona el año 2007 donde el Dalai Lama habló sobre "el arte de la felicidad" <https://youtu.be/YHe9XmLytgU>
- de Mora Vaquerizo, J. M. (1988). *Tantrismo Hindú y Proteico*. Universidad Nacional Autónoma de México.
- Derryberry D., Rothbart MK., (1988) Arousal, affect, and attention as components of temperament. *Journal of personality and social psychology*. 1988;55:958–66.
- Enerbäck S. (2009) The origins of brown adipose tissue. *N Engl J Med*. 2009 May 7;360(19):2021-3.
- Engel AK., Fries P., König P., Brecht M., Singer W. (1999) Temporal binding, binocular rivalry, and consciousness. *Conscious Cogn*. 1999 8(2):128-51
- Evans-Wentz W. Y. *Tibetan Yoga and Secret Doctorines*. Varanisa, India: Pilgrims Publishing; 2002.

- Fries P., Reynolds J., Rorie A., Desimone R. (2001) Modulation of Oscillatory Neuronal Synchronization by Selective Visual Attention SCIENCE 23 FEB 2001 : 1560-1563
- Glaserapp, H. v. (1999). Jainism: An Indian Religion of Salvation. Motilal Banarsidass Publ, ISBN 9788120813762.
- Goleman D., 1996 The meditative mind: the varieties of meditative experience. New York, U.S.A.: G.P. Putnam's Sons. 214 p.
- Gómez, Oscar R. (1996) Programa del Curso Certificado de Tantra. Copyright (c) 1996 Oscar R. Gómez. <http://www.worldcat.org/oclc/957065800>
- Gómez, O. R. (2008). Manual de Tantra... desde el tantra a la Tecnología del deseo. Buenos Aires, Argentina: MenteClara.
<http://tantra.org.ar/biblioteca/index.php/Biblioteca/article/view/1>
- Gómez OR (2012) Discurso inaugural de la carrera de psicología corporal. Orador: Oscar R. Gómez, presidente de la Fundación MenteClara (2012)
<http://menteclara.org/textoinaugural.htm>
- Gómez, O. R. (2013). El tantrismo dentro de la Compañía de Jesús. Tantra: del Tíbet al Vaticano hoy. Biblioteca| Repositorio (Open access)| Escuela de Tantra en España, 58.
<http://tantra.org.es/revista/index.php/Biblioteca/article/view/22>
- Gómez, O. R. (2016). Antonio de Montserrat–La Ruta de la Seda y los caminos secretos del Tantra. Revista Científica Arbitrada de la Fundación MenteClara | Tantra, 1(1), 5-20.
<http://fundacionmenteclara.org.ar/revista/index.php/RCA/article/view/8>
- Gómez, O. R. (2017). ANÁLISIS CRÍTICO DEL KULARNAVA TANTRA-PARTE 1-UN PRÓLOGO VICIADO DE SEXUALIDAD REPRIMIDA. Revista Científica Arbitrada de la Fundación MenteClara | Tantra, 2(1), 114-141.
<http://fundacionmenteclara.org.ar/revista/index.php/RCA/article/view/26>
- Gusnard DA, Raichle ME, Raichle ME. (2001) Searching for a baseline: functional imaging and the resting human brain. Nat Rev Neurosci. 2001 Oct;2(10):685-94.
- Gyatrul R., 1996 Generating the deity. Ithaca, New York, U.S.A.: Snow Lion. 100 p.
- Harper K. A., Brown R. L., editors. (2002)The Roots of Tantra. New York, NY, USA: State University of New York Press.
- Holmes DS., (1984) Meditation and somatic arousal reduction. American Psychologist. 1984;39:1–10.

- Kozhevnikov M., Louchakova O., Josipovic Z., Motes M. A. (2009) The enhancement of visuospatial processing efficiency through buddhist deity meditation. *Psychological Science*. 2009;20(5):645–653. doi: 10.1111/j.1467-9280.2009.02345.x
- Kozhevnikov M, Elliott J, Shephard J, Gramann K (2013) Neurocognitive and Somatic Components of Temperature Increases during g-Tummo Meditation: Legend and Reality. *PLoS ONE* 8(3): e58244. doi:10.1371/journal.pone.0058244
<http://www.ncbi.nlm.nih.gov/pubmed/23555572>
- Levenstein S, Prantera C, Varvo V, Scribano ML, Berto E, Luzi C y Andreoli A.(1993) Desarrollo del Cuestionario del Estrés Percibido: una nueva herramienta para la investigación psicosomática. *Journal of Psychosomatic Research* 1993; 37 (1): 19-32.
- Lorenzetti, D. N. (1992). Evidencia temprana de la religión tántrica. *Estudios de Asia y Africa del Colegio de México*, XXVII(2), 262-278.
- Lutz, A., Greischar, L. L., Rawlings, N. B., Ricard, M., & Davidson, R. J. (2004). Long-term meditators self-induce high-amplitude gamma synchrony during mental practice. *Proceedings of the National Academy of Sciences of the United States of America*, 101(46), 16369–16373. <http://doi.org/10.1073/pnas.0407401101>
- Masino SA, Dunwiddie TV (2000) A transient increase in temperature induces persistent potentiation of synaptic transmission in rat hippocampal slices. *Neuroscience* 101: 907–912
- Morrison S. F., Blessing W. W. (2011) Central nervous system regulation of body temperature. In: Llewellyn-Smith I. J., Verberne A. J. M., editors. *Central Regulation of Autonomic Functions*. Oxford Scholarship Online; 2011. pp. 1–34.
- Paulsen, O., & Sejnowski, T. J. (2000). Natural patterns of activity and long-term synaptic plasticity. *Current Opinion in Neurobiology*, 10(2), 172–179.
- Posner, M. I., DiGirolamo, G. J. & Fernandez-Duque, D. (1997) Conscious. *Cognit.* 6, 267-290. <https://www.ncbi.nlm.nih.gov/pubmed/9245457>
- Petersen S. E., Posner M. I. (2012) The attention system of the human brain: 20 years after. *Annual Review of Neuroscience*. 2012;35:73–89. doi: 10.1146/annurev-neuro-062111-150525. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3413263/>
- Reich, W. (1990). *La función del orgasmo: el descubrimiento del orgón*. Problemas económico-sexuales de la energía biológica. Paidós, ISBN 9789688531044.
- Rinpoche T. U. *As It Is*. Vol. 2. Hong Kong: Ranjung Yeshe Publications; 1999.

- Rodriguez E, George N, Lachaux JP, Martinerie J, Renault B, Varela FJ. (1999) Perception's shadow: long-distance synchronization of human brain activity. *Nature*. 1999 Feb 4;397(6718):430-3.
- Rush AJ, Pincus HA, First MB, Blacker D, Endicott J, Keith SJ, Phillips KA, Ryan ND, Smith GR, Tsuang MT, Widiger JA, Zarin DA (Task Force for the Handbook Psychiatric Measures). *Handbook of Psychiatric Measures*. Washington DC, American Psychiatric Association, 2000.
- Samuel G. (2008) *The Origins of Yoga and Tantra: Indic Religions to the Thirteenth Century*. Vol. 2013. New Delhi, India: Cambridge University Press.
- Shiva, L. (VII d.C). *Kularnava Tantra o Urdhvaamnaaya Tantra (Reimpresión del original conservado en el Rajshahi College en Sanskrit in Bengali typeset with Bengali Translation)*. (U. K. Das, Ed.) Calcuta, India: Ranjit Saha, NavBharat Publishers 1976.
- Singer W. (1999) Neuronal synchrony: a versatile code for the definition of relations? *Neuron*. 1999 Sep;24(1):49-65, 111-25. Singer W. (1999) Neuronal synchrony: a versatile code for the definition of relations? *Neuron*. 1999 Sep;24(1):49-65, 111-25.
- Singh V, Aballay A (2006) Heat-shock transcription factor (HSF)-1 pathway required for *Caenorhabditis elegans* immunity. *Proc Natl Acad Sci USA* 103: 13092–13097
- Snellgrove D., (2003) *Indo-Tibetan Buddhism: Indian Buddhists and their Tibetan successors*. Boston, U.S.A.: Shambala. 666 p.
- Sogyal Rinpoche 1990 *Dzogchen and Padmasambhava*. California, U.S.A.: Rigpa Fellowship. 95 p
- Sturm W., de Simone A., Krause B. J., et al. (1999) Functional anatomy of intrinsic alertness: evidence for a fronto-parietal-thalamic-brainstem network in the right hemisphere. *Neuropsychologia*. 1999;37(7):797–805. doi: 10.1016/s0028-3932(98)00141-9.
- Tononi G., Edelman GM., (1998) Consciousness and complexity. *Science*. 1998 Dec 4;282(5395):1846-51.
- Travis, F. y Shear, J. (2010) "Focused attention, open monitoring and automatic self-transcending: Categories to organize meditations from Vedic, Buddhist and Chinese traditions" *Consciousness and Cognition* Volume 19, Issue 4, December 2010, Pages 1110-1118 <https://doi.org/10.1016/j.concog.2010.01.007>
- Tulku Urgyen Rinpoche (1999) *As it is*. Hong Kong: Ranjung Yeshe Publications. 224 p.

- Vishnu, S. (1949). *Pancha Tantra o cinco series de cuentos*. (J. A. Bolufer, Trad.) Buenos Aires, Argentina: Partenon.
- Wangyal T., 1993 *Wonders of the natural mind: the essence of Dzogchen in the Native Bon tradition*. Ithaca, New York, U.S.A.: Snow Lion. 224 p.
- Weinbach N., Henik A. (2011) Phasic alertness can modulate executive control by enhancing global processing of visual stimuli. *Cognition*. 2011;121(3):454–458. doi: 10.1016/j.cognition.2011.08.010.
- Wilson, H. H. (1826). *Analytical Account of the Pancha Tantra, Illustrated with Occasional Translations*. *Transactions of the Royal Asiatic Society of Great Britain and Ireland*, 1(2), 155-200.
- Wright KP Jr, Hull JT, Czeisler CA (2002) Relationship between alertness, performance and body temperature in humans. *Am. J. Physiol. Regul. Integr. Comp. Physiol* 283: R1370–R1377
- Yeshe Thubten *Introduction to Tantra: A Vision of Totality*. Wisdom Publications, 1987
- Zeidan F., Martucci K. T., Kraft R., McHaffie J. G., Coghill R. C. (2014) Neural correlates of mindfulness meditation-related anxiety relief. *Scandinavica*. 2014;9:751–759.
- Zimmer, H., & Campbell, J. (1953). *Philosophies Of India*. London: Routledge & Kegan Paul Ltd ISBN 978-81-208-0739-6.

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