

# Roots of Anger and Aggression: Indian Wisdom from the Bhagawad Gita

Usha Ram<sup>1)</sup>

Department of Psychology  
University of Pune

The root of anger is "desire," as indicated in the Bhagawad Gita. Frustration of our desires causes anger which, metaphorically, blinds the person and ultimately leads to destruction. Desires are at the three levels of body, mind, and intellect. The pure nature of desire (or "kama") is to know reality, that is, it is at the intellectual level. However, it is through the human body that one satisfies one's desire. Therefore, physical needs (e.g., food, sleep, and sex) and emotional desires (e.g., security, love, and esteem) require satisfaction. Maslow's hierarchy of needs (motivation theory) is comparable with this perspective. Satisfying needs and desires at these levels are descriptive of our functioning towards the goal of transient happiness ("sukh"), paving the way to the final goal of bliss ("anand"). Kama gives rise to attraction/attachment to the objects of desire but also to anger and fury ("krodha") when desires get frustrated. Kama, predominantly at the body level, causes greater anger and leads to adverse consequences at the level of psychophysiology. To reduce such experiences of anger, people must adhere to dharma which enables them to transcend the baser levels of desires, thus leading to the higher goals of prolonged than transient bodily happiness, and finally, to liberation ("moksha") from the bondage of desires and attachments which are involved in our existence. Various techniques and methods to overcome anger have been suggested in the Bhagawadgita and presented in the paper.

Anger is a common emotional experience and most would agree that anger occurs toward an object/person which/who is an obstacle to fulfilling one's desired goal. Kassinove and Sukhodolsky (1995) defined anger as "a negative,

phenomenological (or internal) feeling state associated with specific cognitive and perceptual distortions and deficiencies (e.g., misappraisals, errors, and attributions of blame, injustice, preventability, and/or intentionality), subjective labeling, physiological changes, and action tendencies to engage in socially constructed and reinforced organized behavioral scripts" (p. 7).

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1 Correspondence to: Usha Ram, Department of Psychology,  
University of Pune, Pune 411 007, India  
E-mail: usharam@unipune.ernet.in

Spielberger, Jacobs, Russell, and Crane (1983) also commented that "anger usually refers to an emotional state that consists of feelings that vary in intensity, from mild irritation or annoyance to intense fury and rage" (p. 16).

Though Bhagawad Gita, the ancient Indian book addressing all human beings through eighteen chapters and providing the essence of the Upanishads, has not defined anger, it has used the word *Krodh* for anger. Considering the effects of anger at the physiological and psycho-social levels, this emotion is an immense waste of human energy that is causing much destruction to mankind, from the individual through international levels. The Bhagawad Gita has called anger as "all-devouring . . . enemy here"-meaning in this world (Ch III-37, Swami Ramsukhdas, trans., 1996, p. 180). Anger has been called "monstrous" (Hauck, 1983) with disastrous consequences to self and others.

This paper is an exploration into firstly the roots of anger, and secondly into the different ways of reducing anger, as discussed in the Bhagawad Gita.

## ROOTS OF ANGER

Bhagawad Gita is addressed by Lord Krishna to his friend and warrior prince, Arjuna, who faces a dilemma regarding fighting a battle against his first cousins. The Gita, as this book is popularly called in India, is a part of the great epic Mahabharata. In answering Arjuna's queries, the Lord provides the wisdom to him who is a representative of all human beings on this planet.

Chapter II-62 and 63 describe the source of all our problems, particularly anger. The verses

(Swami Chinmayananda, trans., 1976, p. 138) read:

"When a man contemplates on objects attachment for them arises; from attachment desire is born; from desire arises anger" (62).

"From anger arises delusion; from delusion loss of memory, from loss of memory the destruction of discrimination from destruction of discrimination we perish" (63)

This is the "ladder-of-fall" (Swami Chinmayananda, trans., 1976, p. 138). It can be seen from these two verses that desires are the roots of anger. Contemplating, or repeatedly thinking of objects of the world which are experienced through the five senses (touch, smell, taste, sight and hearing) in our body causes the development of an attachment for them. These objects have provided pleasure in the past and, therefore, now become desirable. The pleasure may have been physically or psychologically enhancing the enjoyment of the objects. Since they have provided the pleasures or enjoyment through the senses, these objects have been called sense-objects (e.g., Ch. II-58-62). There is a desire to repeat the experience of this pleasure and this desire has been called *Kama*.

An unfulfilled desire gives birth to anger. Gratification of the desire leads to further desire of the same pleasure, *trsna* (greed); and "one who creates obstacle in the possibility of its gratification becomes victim of anger" (Swami Ramsukhdas, 1996, p. 96).

"It is desire, it is anger, born of the *guna* called *rajas*, consumer of much, very evil; know it to be your enemy here in the world" (III-37, Swami Rama, Trans., 1985, p. 160).

In this verse again there is the reference made to desire and anger together, relating them to their quality of being evil and, therefore, an enemy to man, preventing him from attaining peace and calm. For, it is under the sway of both desire and anger that man commits sins. So we see that Kama-Krodha are at the root of human pain than peace. Krodha--anger--causes delusion, or veils the discrimination ability, leading man to perform undesirable actions/deeds. For example, anger causes one to lose sight of what is real (objective reality) making one shout out harshly and/or physically hurt the target of anger. Delusion also arises from desire and causes damage to oneself and/or others. This is because the desire is for self-related pleasure, and obstacles in this create anger which is (mostly) other-related. In either case, delusion occurs. Since delusion born of anger (born of frustrated desire) is very disastrous, this aspect has been highlighted in the verse. Delusion, due to misperception, and loss in discrimination ability causes disturbance in memory, leading to impairment of reasoning and intellect, paving the way to self-destruction (ch II-63).

The emphasis on desire as the root cause of anger requires some discussion. Kama (desire) is innate in human beings. It emerges only when the individual becomes aware of his/her being. That is, the consciousness of "I am" (aham asmi) is the prerequisite for Kama to get activated. This awareness is pleasant and stirs the desire for repetition of the experience in various ways.

There are three broad categories of Kama, and, therefore, experiences, for man. These are at body, mind, and intellect levels. The bodily Kama and experiences are through the five senses and sense organs; therefore, we have physical Kama (e.g., food, sleep, sex). The mind is related to feelings,

therefore, the psychological experiences of pleasure, pain, joy and sorrow are accordingly desired/not desired. This includes the desires related to love, security feeling, self-esteem, recognition in this world among others. The third aspect is intellect in human beings which is necessary for thoughts and ideas. So, briefly put, we humans operate at the body, mind and intellect levels. Therefore, we have physical, mental (psycho-social) and intellectual desires. These identified in the Vedanta are called dehavasana (physical desires), lokavasana (desires pertaining to others in our world: psycho-social) and sastravasana (intellectual desire pertaining to knowledge). This set of desires has been called anatnavasana (desires of the non-Self) as against the atmavasana (desires for the Self/Soul). The latter is desire to know the Real Self; however, this is possible only when the attachment for the former are transcended. One may be reminded of Maslow's (1954) need theory of motivation here.

There is a difference between need and desire. Needs are for sustenance, while desire are related to the pleasure experience. Needs (e.g., food) subside once met, till they arise again, whereas fulfillment of one desire paves way for the desire being met repeatedly by the sense-objects. A need-satisfaction causes none harm unless it is shrouded by desire. If one gets pleasure satisfying one's needs, that can generate attachment and therefore, desire (Swami Ramsukhdas, 1996). Thus, craving is born, with frustration and anger not far behind.

A relevant question in here may be: why do these desires abound in us? This happens because we limit our identity to our body, mind and intellect. This identity is limited to "I," "me," and "mine" which may be called the ego (aham). When

one's restricted identity seeks gratification of desires, limited again to one's restricted self's experience, one experiences the pains of frustration, anger and its effects at, again, the three levels of body, mind, and intellect.

The self-related desires are more easily come than other-related ones. That is, selfish motives are today increasing and, therefore, there is more anger and violence. This restricted identity where the perception and belief "I am my body" only, is called dehabuddhi which restricts growth experiences that lead to transcending this restriction. A pure Kama gets fulfilled while the contaminated/impure Kama which has selfish motives at the cost of other's discomfort and suffering creates anger when unmet or dissatisfied (Swami Ramsukhdas, 1996). Such selfish desires is called Kamana, an earnest desire (II-71).

Desire first emerges at the intellectual level (cognitive level) as an idea or thought. That is, the intellect (buddhi) is activated. The instrument or active aspect of buddhi is mind which then pursues the idea/thought, stirring related memories of pleasure. And the mind then propels the body to act towards gratification of the desire. The awareness of being is at the buddhi level. Therefore, awareness of "I am" is cognitive, causing desire for the pleasantness (of this awareness) to be repeated. Desire is an activating force or energy. It is born of an activating property present in all creation called rajas (ch III-57).

There are three properties or attributes (Guna), namely satwa, rajas, and tamas. Of these, satwa has positive characteristics like goodness, attachment to knowledge, flawlessness, and so on (ch. XIV-6). Rajas is characterized by activity or action, passion, and craving (ch XIV-7), while

tamas stands for inertia, inactivity, ignorance, and the spirit being attached to the body "through heedlessness, indolence and sleep" (ch. XIV-8; Swami Ramsukhdas, 1996, p. 660).

All these three attributes or properties--triguna--are also present in human beings in body, mind, and intellect. The variations in the amount of the triguna produce the individual differences in the personality, desires, and behavior. Thus, the individual differs in the nature of desires and anger experience, too. The combination of matter (prakrti) and spirit (atma) produces triguna (XIV-3, 5). So, it can be seen that if an individual is pre-dominantly passionate, he/she is more active governed by the raja-guna than by the satwa, tama, and gunas (XIV-10, 12), making him/her a good candidate for anger and its correlated behavioral effects.

Desires pertain to the five senses, mind and intellect:

"Wisdom is enveloped by this constant enemy of wise (discerning soul) in the form of desire which is insatiable like fire" (III-39).

"The senses, the mind, and the intellect are said to be its seat, veiling wisdom by these (sense, mind, and intellect) it deludes the embodied (soul)" (III-40).

Kama is of two kinds: pure and impure or contaminated. The pure Kama is related to sustenance of life while the impure or contaminated is related to the worldly pleasures of sense-objects. It is the pure Kama which gets satisfied and the impure one which recurs in an increasing frequency and intensity causing anger and suffering. Because of contamination of the Kama by recurring cravings for transient

sense-objects the impure Kama never gets satisfied but faces obstacles leading to anger and pain.

Violence is an extreme expression of anger. The nature of the expression depends on (i) the intensity of anger and of preceding desire, and (ii) the nature of the individual personality who is angry.

"There are two types of beings, in this world, the 'divine' and the demoniac. . ." (XVI-6).

"The demoniac know not what to do and what to refrain from; neither purity, nor right conduct, nor truth is found in them" (XVI-7).

"They say the universe is without truth, without moral basis, without a God; nor brought about by any regular causal sequence, with lust for its cause; what else?" (XVI-8).

"Holding this view, these ruined souls of small intellect and fierce deeds, come forth as the enemies of the world, for its destruction" (XVI-9) (Swami Chinmayananda, trans., 1976).

There are people bound by innumerable desires and hopes, "given to lust and anger (that) strive to obtain, by unlawful means, hoards of wealth for sensual enjoyments" (XVI-12; Swami Chinmayananda, Trans., 1996).

The rajasic guna is predominantly operating among these people who are passionate and, therefore, characteristically lust for the material pleasures. Their attitude is that of selfishness, hankering after worldly possession. These people are filled with egoism, power, lust and anger, and malice and hatred for all--the creator and others alike--and moves towards destruction than towards happiness and the supreme goal of Self-realization. The strength of this state (of mind) aroused by

the rajas (passionate) guna gets "acted" (through the body) by the tamas (dull, ignorant) "without regard for the consequence, loss, injury, and ability" (XVIII-25).

It is evident from these verses that egoism and lust make the individual heedless to the consequences of his/her act of seeking to gratify his/her intense desires at any cost to anyone.

## REDUCTION OF ANGER

Reducing anger has been desirable for human beings for long. And various scriptures of the world have provided means of doing so. Similarly, modern psychologists have offered ways of overcoming anger which also prove to reduce frequency and intensity of anger experience recurring. A commonly uttered method resembles suppression of anger, that is, preventing expression to it to avoid any damaging effects on the target. All psychologists and layman may agree that this does not reduce the anger and its effects on the experiencer, though it perhaps, avoids effects on the victim. Since desire has been identified as the root cause of anger, it helps to focus on the same for reduction, too. It will be recognized that desire being suppressed to reduce anger is not a solution. The basic needs for sustenance must be met, for the body is a means of fulfillment of needs and desires. So the body must be maintained. In this connection the Lord says to Arjuna:

"There is no yoga for one who eats much or who eats nothing at all or for one who is inclined to excessive sleep or one who awakes altogether, O, Arjuna" (VI-16).

Though this verse mentions body-level desires, it will be appreciated that deprivation of food and sleep affects perception and activities; that is, the psychological levels of the individual's existence are adversely affected by deprivation and over-indulgence.

Anger can be reduced in four ways according to Gita: through Wisdom (jnana), action/deed (Karma), meditation (dhyana), and devotion (bhakti).

**Jnana.** This is a process whereby desires are purified to become pure or shuddha Kama. This entails understanding the transient nature of the sense-objects which provide pleasure and pain only for sometime (II-14).

Desires which are intense--Kamana--have to be reduced in intensity. A desire which has the ideas of "I must have this; it has to be this way," etc. has the imperative insistent component making the desire for fulfillment intense/earnest. Such intensity is indicative of higher level of ego-involvement which then has adverse consequences to the seeker of fulfillment. The human body is perishable, so are the senses which provide pleasure from the sense objects desired.

"The contacts of senses with objects, O son of Kunti, which cause heat and cold, pleasure and pain, have a beginning and end; they are impermanent; endure them bravely, O descendent of Bharata" (II-14, Swami Chinmayananda, Trans., 1976).

An object is perceived through sense organs (indriyas) by the perceiver. This experience of the same object varies across people and time. This is because of the "differences in the mental

composition of the individuals" (Swami Chinmayananda, 1976, p. 65). One who understands the finite nature of objects and of the experience derived from them will not be swayed by them. Reducing these intense desires (yearnings, cravings) for the sense-objects is achieved by reasoning as jnana (wisdom) is essentially a base for feelings and emotions as has been stated by western thinkers (e.g., Epictetus) and by psychologists like Ellis (1970) and Beck (1976) in their psychotherapies. "A desire in itself cannot and does not bring about disturbances in the mind as our longing after those very same desires does" (Swami Chinmayananda, Trans., 1976, p. 369).

The Gita, thus, advises us to renounce our yearnings and cravings "through discrimination and proper intellectual evaluation of the sense-objects" (Swami Chinmayananda, Trans., 1976, p. 369-70). Overcoming these strong desires for sense-objects can be achieved through understanding of the impermanence of pleasures and pains. Gita explains this thus:

"The contacts of senses with objects, O son of Kunti, which cause heat and cold, pleasure and pain, have a beginning and an end; they are impermanent . . . " (II-14).

In a later chapter Krishna explains the delusion we all are prone to have:

"By the delusions of the pairs . . . of opposites arising from desire and aversion, O Bharata, all beings are subject to at birth. . . " (VII-27).

But we need to free ourselves of these misbeliefs to rise above the anger experiences. Besides the realization of impermanent nature of



the sense experiences of the sense-objects, the cravings or recurring intense desires which bind us to the experience of anger can be overcome by the understanding and/or realization regarding one's identity, that is one's ego. We believe that "I am the doer" because our "mind is deluded by egoism" (III-27). It would help to recognize that our identity is not limited to our body-mind-intellect, or restricted to the world of sense-objects and, therefore, "I" and "mine" are not limited in experience but are expansive; and the sense-objects are transient or impermanent, belonging to none to identify with.

These realizations will help reduce cravings for possession, in turn reducing probability of frustration and any consequential anger and violence. It may help to refer to Jung's discussion of the psyche. In this, one's limited identity is the ego, personal consciousness or "the subjective point of reference for consciousness, so too is the self the subjective point of reference for the totality of the psyche" (Rychlak, 1973, p. 142).

**Karma.** Desires are fulfilled through some act or action carried out by the individual body with its five senses and the many organs. In this connection the Gita says:

"You are entitled only to actions and never to fruits; do not consider yourself to be the cause of the fruits of action, nor let your attachment be to inaction" (II-47).

Human beings act with a purpose, with some goal in mind. Attaining that goal is a desire. When any action is undertaken with the mind set on the goal, the attention is less on the action and more on the goal (fruit). Involved in this is one's

expectations of goal-achievement, some form of returns for the deed done. These expectations or goals are ego-related and the stronger the expectations greater will be the frustration in the event the goal is unfulfilled. In following the above-quoted verse are two major points: one is the aspect of expectations (of returns, rewards or fruits of the deed/act) which can be reduced in intensity to start with. That is, the imperative, insistent aspect in one's expectations are subjected to correction and reduction before elimination.

The second point of equal importance is paying attention to the action or deed fully and doing the undertaken task adequately. This verse understood and implemented helps to rise above cravings and anger. The next two verses are equally enlightening in reducing desires and anger:

"O Dhananjaya, perform actions (duties) being fixed in Yoga, renouncing attachment, having become even-minded in success and failure; equanimity (equilibrium) is called Yoga" (II-48).

". . . action with a selfish motive is far inferior to that performed with equanimity of mind. Seek refuge in this evenness of mind, for wretched are those who crave for fruit of action" (II-49) (Swami Ramsukhdas, Trans., 1996, p. 83).

These two verses emphasize developing detachment to the goals (fruits of action) which are desired by the individual with a selfish motive. This detachment is possible only through reasoning. Such a person who has acquired detachment is self-controlled and free from attraction (raga) and aversion (dvesa) which bind us to recurring desires. This provides peace to the mind and tranquillity to the intellect, allowing the person to transcend destructive emotions and

sorrow:

"The self-controlled man, moving among objects with his senses under restraint, and free from both attraction and repulsion, attains peace" (II-64).

"In that peace all pains are destroyed; for the intellect of the tranquil-minded soon becomes steady" (II-65) (Swami Chinmayananda, Trans., 1976, p. 140-142).

To attain this equanimity and peace, the wise who has the knowledge of the impermanence of desires, sense-objects and related experiences, abandons the expectations and cravings and reduces his/her egoism.

"That man attains peace who, abandoning all desires, moves about without longing, without the sense of 'I-ness' and 'my-ness'" (II-71).

However, this is achieved by giving up desires

"arising from the thoughts of the world, and fully restraining the senses from all sides by the mind" (III-24).

This is achieved gradually to attain tranquillity (III-25). It is evident now that jnana helps to bring clarity to one's mind about the desires and the deeds/acts related to the fulfillment of desires. Having achieved the jnana and Karma paths, one can move to dhyana (meditation) or choose this path independently.

**Dhyana** (Meditation). One desirous of overcoming anger can rise above kamana (cravings) through meditation, too. Meditation is

achieved through the effort of restraining one's senses from the sense-objects which desires are attached to. Restraint does not mean suppression. The control over desire vis-a-vis control/power that desires have over our behavior is to be distinguished. In the former one is master and in the latter case the desires master us. Having understood in the jnana method that we identify our identity/self to the restricted body-mind-intellect level, and the impermanence of these experiences of the sense-objects has caused us anger, and its consequences, in the dhyana method the mind is now focussed on the realization of one's true self.

The true self transcends the limited operations and sphere of the ego. This may be readily understood in Jungian terms of the ego and the self, as mentioned earlier. To be in contact with the collective consciousness is similar to the realization of one's Real Self discussed in Gita and the Vedanta, Upanishads, among others.

To achieve self-realization, meditation has been prescribed. Withdrawing our thoughts from the world of sense-objects we focus our mind and intellect on the Self or Universal consciousness, atman, or God, the Creator. For Krishna says:

"They say that the senses are superior (to the body); superior to the senses is the mind; superior to the mind is the intellect; one who is even superior to the intellect is that (the atman)" (III-42, Swami Chinmayananda, Trans., 1976, p. 211).

In meditation the ultimate or superior goal the Self/Atman is focussed upon.

**Bhakti**. This is the path of devotion to overcome our repeated experiences of negative



experiences like anger, and its peace destroying consequences at the physical-psycho-social levels. This path has been advised by all religions and scriptures of the world. Bhakti (devotion) arises out of faith or trust. Trust has its origin in knowledge. Thus, we find that the cognitive level is at the start of all experience be it the arousal or occurrence of an experience (emotion: anger) or its treatment/reduction.

Thus Krishna says:

"Mentally renouncing all action in Me having Me as the Highest Goal resorting to the Yoga-of-discrimination, ever fix your mind in Me" (XVIII-57, Swami Chinmayananda, Trans., 1976, p. 1085).

This verse advises man to leave all desires and related anxieties born of egoism at the altar of the Lord. The "Me" here may be understood as the Creator or the Self, the Universal Consciousness, the Brahman. Therefore, this attainment of the Brahman itself the supreme goal, discriminating though the intellect (buddhi) between the true and false, the non-ego-centric from the ego-centric, and acting or doing, surrendering to the Creator, is an expression of bhakti or devotion to the Creator.

All four paths or methods recommended here (jnana, karma, dhyana, and bhakti) are interrelated. Practicing any one of these facilitates acceptance of the remaining three paths to reduce and finally eliminate anger.

## REFERENCES

Beck, A. T. (1976). *Cognitive therapy and the*

*emotional disorders*. N.Y.: Meridian.

Ellis, A., & Harper, R. A. (1970). *A guide to rational living*. Englewood Cliffs, N.J.: Prentice-Hall and Hollywood: Wilshire Books.

Hauck, P. (1983). *Calm down: How to cope with anger and frustrations*. New Delhi: Sudha.

Kassinove, H., & Sukhodolsky, D. (1995). Anger disorders: Basic science and practice issues. In H. Kassinove (Ed.), *Anger disorders: Definition, diagnosis and treatment*. Washington, D.C.: Taylor & Francis.

Maslow, A. (1954). *Motivation and personality*. New York: Harper.

Rychlak, F. (1973). *Introduction to personality and psychopathology*. Boston: Houghton Mifflin.

Spielberger, C. D., Jacobs, G., Russell, S., & Crane, R. (1983). The state-trait anger scale (STAS). In J. N. Butcher & C. D. Spielberger (Eds.), *Advances in Personality Assessment* (V. 2, pp. 159-187). Hillsdale, NJ: Lawrence Erlbaum.

Spielberger, C. D., Reheiser, E. C., & Sydeman, S. J. (1995). Measuring the experience, expression and control of anger. In H. Kassinove (Ed.), *Anger disorders: Definition, diagnosis and treatment*. Washington, D.C.: Taylor & Francis.

Swami, Chinmayananda (1976). *The Holy Geeta*. Bombay: Central Chinmaya Mission Trust.

Swami, R. (1985). *Perennial psychology of the Bhagwad Gita*. Honesdale, PA: The Himalayan International Institute of Yoga Science and Philosophy of the U.S.A.

Swami Ramsukhdas (1996). *Srimad Bhagwadgita*. Gorakhpur: Gita Press.

## 분노와 공격성의 뿌리: Bhagawad Gita로부터 얻는 인도의 지혜

Usha Ram

Department of Psychology  
University of Pune

Bhagawad Gita에서 말하듯, 분노의 뿌리는 욕망(desire)이다. 욕망의 좌절은 분노를 일으키고, 분노는 사람을 눈멀게 하고 파멸에 이르게 한다. 욕망은 몸과 마음과 지(智)의 세 수준에 걸쳐 있다. 욕망의 본성(Kama)은 실체를 아는 것이며 이는 지의 수준이나, 인간의 욕망을 만족시키는 것은 오직 몸을 통해서다. 그래서 신체적 욕구(예, 음식, 수면, 성)와 정서적 욕망(예, 안전, 사랑, 자존)은 만족을 갈구한다. Maslow의 욕구 위계설(혹은 동기이론)은 이런 관점과 상응한다. 이런 수준들에서 욕구와 욕망을 충족시키는 것은 일시적 행복("sukh")이라는 목표를 달성시켜주고, 열락("anand")이라는 최종 목표로 가는 길을 열어 준다. Kama는 욕망의 대상에 끌리고 매어 달리게 하지만, 욕망이 좌절되었을 때 분노하고 미치게("krodha") 한다. 주로 육체적 수준에서 작동하는 Kama는 더 큰 분노를 유발하고 심리생리적 수준의 부작용을 초래케 한다. 분노 경험을 줄이기 위해, 낮은 수준의 욕망을 넘어서서 일시적인 행복이 아니라 오래가는 보다 높은 목표로 이끌어 주고, 궁극적으로 인간 실존의 욕망과 애착이라는 족쇄로부터 해방("moksha")시켜주는, 법("dharma")에 귀의해야 한다. Bhagawadgita에 있는 분노를 극복하는 다양한 방법과 기술들에 대해 제안했다.