

Time, Eternity and Trinity

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Abstract

This paper addresses three issues. In the first part the relation between consciousness and time is being discussed as it developed in the history of philosophy and theology. It covers Plato, Plotinus and St. Augustine. It continues in the second part to describe that time it is being perceived in the mystical consciousness as eternity which means in this context timelessness. Examples from world religions are offered. The question is asked if this eternity in mystical experience can be understood as relating to the eternity of God or as a mere self-experience. In order to settle this question mystical experiences as being interpreted from the angle of modern neuroscience as the result of self-organizing processes of meditation that can be described as attractors. In the final third part it is suggested to discern the eternity of mystical states of mind as timelessness from eternity as an attribute of the triune God.

Part I

Time and Consciousness

Ever since Plato made the fundamental distinction between time (*χρόνος*) and eternity (*αἰών*) in *Timaios* (Ti. 37d) and *Parmenides* (Parm. 141aff, 151eff) the relation between time and eternity has been an issue of philosophical and religious dispute. Platon himself understood time as the movable effigy of eternity (*εἰκὼ δ' ἐπενόει κινητόν τινα αἰῶνος*)¹. In late antiquity this debate entered into a new realm when Neo-Platonist Plotinus and Platonist St. Augustine associated time with the human consciousness. From this time onward the relation between time and eternity could be thought of as a feature of the human consciousness.

Plotinus (205-270)

In the *Enneads* III, 7 Plotinus offers a definition of eternity as independence of change and as eternal present². After asking the question of what might happen, if one could partake in eternity³, he develops a first theory of how time and eternity relate to each other within the sphere of the human soul (*ψυχή*),

¹ *Timaios* 37d

² Plotinus defines eternity in terms of its independence of change. “Like how in a point everything is gathered and does not occur in flow, so remains eternity in itself and does not change, but is always in present, because nothing in it is bygone and nothing in it will be, it is only what it is”, Plotinus, *Enneads* III, 7, 3, 18-22. “Whatever neither was nor will be, but only is what this being is as maintaining, because it does not change in what will be nor has changed, this is eternity. Thus it follows as eternity what we are seeking: Life in being which occurs in being (*ἡ περὶ τὸ ὄν ἐν τῷ εἶναι ζῶῃ*), which is simultaneously whole, fulfilled and completely non-extended”, Plotinus *Enneads* III, 7, 3, 33-38. “If one wants to say eternity is perfected-infinite life by means of its wholeness and does not waste anything of itself, because nothing of it is bygone or will be – otherwise it would not be whole – then one would be near to a definition”, Plotinus, *Enneads* III, 7, 5, 25-28.

³ Plotinus, *Enneads*, III, 7, 5, 8-13. “We also must partake in eternity (*δεῖ ἄρα καὶ ἡμῖν μετεῖναι τοῦ αἰῶνος*). But how is this possible as we are in time (*ἀλλὰ ἐν χρόνῳ ὅσῃ πῶς*)”, Plotinus, *Enneads* III, 7, 7, 5-6.

rejecting Aristotle's account of time⁴. According to Neo-Platonic emanation theory the soul departs from primordial unity and falls into diversity and time. It then becomes intermediate between sensuality (αἰσθησις) and spirit (νοῦς), itself partaking also in the spirit (λόγος νοῦ).

There is an analogy between:

Time	Eternity
Soul (ψυχή)	Spirit (νοῦς)
Discursive Thinking	Experience of Unity

Time then is within the soul and its actions⁵, time is the soul in movement from one phase into another⁶. However, time of the soul mirrors eternity if it tries to achieve eternity again by being on the way to wholeness, infinity, perfection and unity⁷. It can do so by concentrating on the "interior human being" (εἶσω ἄνθρωπον) and moving upward (ἐπιστροφή ἀναγωγή περιαγωγή)⁸. If the movement of the soul towards eternity has reached its destination by uniting (ἐνωθείσης) with it, the time of the soul dissolves in a moment (ἐξάιφνης)⁹ of rapture (ἀρπασθείς) in ecstasy (ἐκστασις) into the eternity and timelessness of the primordial unity¹⁰. I would like to call this the mystic time of eternity.

St. Augustine (354-430)

Whereas Plotinus was the first to associate time intimately with the life of the soul, St. Augustine can be seen as the first one to understand time as a feature of consciousness, measured by the strength of the human soul or mind. He calls this measure of the soul's strength to maintain time "distentio animi"¹¹. In his famous chapter 11 of his confessions he connects the important aspects of time such as past, present and future with consciousness and the power of the human mind that measures these aspects of time and keeps them together¹², though he does not use consciousness but animus. He thus gets a correlation in the following way (Confessions 11, 28):

Time	Consciousness/animus
Past	Memory (praesens de praeteritis memoria)
Present	Attention (praesens de praesentibus contuitus)
Future	Expectation (praesens de futuris expectation)

⁴ Plotinus, Enneads, III, 7, 8-9.

⁵ „First of all the soul gets into time and begot time and owns it simultaneously by its own actions“, Plotinus, Enneads, III, 7, 13, 45-47.

⁶ „ψυχῆς ἐν κινήσει μεταβατικῇ ἐξ ἄλλου εἰς ἄλλον βίον ζωή“, III, 7, 11, 44.

⁷ Plotinus, Enneads, III, 7, 11, 43-63.

⁸ Plotinus, Enneads, VI, 9, 7, 17.

⁹ Plotinus, Enneads V 3, 17, 19; V 5, 7, 34; VI 8, 18, 8.

¹⁰ Plotinus, Enneads, III, 7, 12, 19-25

¹¹ „Inde mihi visum est nihil esse aliud tempus quam distentionem: sed cuius rei, nescio, et mirum, si non ipsius animi“, St. Augustin, Confessions, XI, 26. Dewart, J. Mc W., 1986, 1987, 467-482; Müller, C., 1993, 123-127.

¹² Referring to conf. XI, 26, St. Augustine claims: "In te animus meus, tempora metior", conf. XI, 27.

However this correlation only works if the human consciousness (*animus*) is strong enough to transcend its location in the immediate present towards future and past in terms of memory and expectation¹³. This means that the strength of time-consciousness depends on the *extend of the mind's activity* (*animus*). Consciousness of time – thus interpreted – is a result of the internal activity of the soul (*animus*). This active part of the soul in constituting time consciousness is substantiated by the earlier writing *De immortalitate animi* (387) of St. Augustine in which he associates time consciousness with bodily activity¹⁴. In addition he refers to the activity of the soul, also earlier than his confessions (397-401), which is activated if one directs one's attention into the interior self as he did himself. He notes this shift of attention from the world to the self in his confessions as a necessary precondition to attain higher spheres of life¹⁵. He described these higher spheres of inward spiritual life – he uses the term *gradatim* – elsewhere before his confessions, for example in *De vera religione* (389-391) and *De genesi adversus Manichaeos* (388/390), and also in *De quantitate animae* (388)¹⁶. One can speculate whether or not these schemas are inspired by his early neo-platonic period of spiritual development or even by Plotinus. In any case they sound in their description rather academic and less affective, though St. Augustine mentions spiritual renascence¹⁷, than in his highly personal confessions, where he alludes in chapter VII to these levels of spiritual development. The interesting thing is that in both cases he relates them to the experience of time. The shift in the way time is experienced is described in *De vera religione* as a feature of the 6th level out of seven levels in which the believer is transformed into eternal life¹⁸. It seems however that this abstract schema of his early writings was only later enriched by his personal experience as documented in his confessions chapter VII, 17. St. Augustine describes there his ascension in the inner world from level to level (*gradatim*), starting with the body, the sentient soul, the superior power of the mind, the spiritual self-understanding, the changelessness (*incommutabile*). Like a flash then the power of reason partakes in a moment of exaltation in pure timeless being¹⁹. However, St. Augustine confesses that he is not able to keep this particular moment and that he falls back again and again in temporal distractions. He therefore confines himself to striving for this particular experience by putting his intentions to the

¹³ Sed quomodo minuitur aut consumitur futurum, quod nondum 'est', aut quomodo crescit praeteritum, quod iam non 'est', nisi quia in animo, qui illud agit, tria sunt? Nam et expectat et attendit et meminit, ut id quod expectat per it quod attendit transeat in id quod meminerit. Quis agitur negat future nondum 'esse'? Sed tamen iam est in animo expectation futurorum. Et quis negat praeterita iam non 'esse'? Sed tamen nest adhuc in animo memoria praeteritorum. Et quis negat praesens tempus carere spatio, quia in puncto praeterit? Sed tamen perdurat attention, per quam pergat abesse quod aderit". St. Augustin, conf. XI, 28.

¹⁴ Müller, C., 1993, 124f., St. Augustine, *De immortalitate animae*, "Porro quod sic agitur, et expectatione opus est, ut peragi, et memoria, ut comprehendi queat, quantum potest. Et expectation futurarum rerum est, praeteritarum vero memoria. At intentio ad agendum praesentis est temporis, per quod futurum in praeteritum transit, nec coepti motus corporis exspectari finis sine ulla memoria. Quomodo enim expectatur, ut desinat, quod aut coepisse excidit aut omnino motum esse? Rursus intention peragendi, quae praesens est, sine expectatione finis, qui futurus est, non potest esse; nec est quicquam, quod aut nondum est aut iam non est. Potest igitur in agendo quiddam esse, quod ad ea, quae non sunt, pertineat" (CSEL 89, S. 104f).

¹⁵ "Admonished to retreat to myself, I entered guided by you, into my interior self" ("Et inde admonitus redire ad memet ipsum intravi in intima mea duce te et potui", Confessions VII, 10).

¹⁶ Chapter 33, Quantum valeat anima?

¹⁷ "sed renascuntur interius", St. Augustin, *De vera religione*, XXVI, 49, 133.

¹⁸ "The 6th brings about complete transformation into eternal life (mutationis in aeternam vitam). Now he arrives at the entire forgetting of temporal life (ad totam oblivionem vitae temporalis) [...]", St. Augustin, *De vera religione*, XXVI, 49, 135

¹⁹ "[...] et pervenit ad id, quod est in ictu trepidantis aspectus", St. Augustin, confessions VII, 17. This delightful moment of timelessness may be similar to Plotinus' famous rapture in the ἐξείλιψης.

unity of God in whom he hopes the distention of his soul will be unified²⁰. It is interesting to note that this inner development of Augustine's consciousness of time corresponds strikingly with his understanding of the will. Whereas in his early neo-platonic period he adheres in his *De liberum arbitrium* (388-391) to the free will, later in chapter VIII of his confessions he relates about his tribulations concerning to cope by his will with his affections and the disunion of his will. And it is only after stabilizing his inner driving force of the will that he can analyze in chapter XI the structure of his consciousness of time. This means that time and will are interrelated as features of the internal man.

St. Augustine and Plotinus can be understood as two different ways to experience time or to put it transcendently to experience in time. Plotinus represents mystical way of experience time as timelessness. Augustine includes also this type of mystical experience of time, but he represents more the type of linear extension of consciousness across memory-attention-expectation. This kind of linear time within consciousness has as additional feature its directionality. There is a clear direction in the flow of time from past to present and future. However, the human spirit or consciousness, though entangled with time, also transcends time by the means of memory and expectation.

Now the interesting question is: How do these two types of time-experience relate to each other and how can they be transformed into one another? In fact we have already seen that Plotinus describes a particular moment (ἐξείφνης) as well as St. Augustine ("in ictu trepidantis aspectus") in which the normal way of linear time experience is transformed into a mystical one, which interestingly is closely associated with great joy.

This point of transformation from linear time to mystical time seems to be a universal property of the human mind, witnessed in all world religions. I would like to add two other examples from the Christian heritage and then proceed to the other world religions.

The first example is that of Meister Eckart in the Middle Ages. He is drawing from Augustine's neo-platonic thinking as it occurs in his *De vera religione* and he even mentions him directly in his treatise "About noble man". In particular he adopts his 6th level of time experience as entering into eternal life²¹. However he is also original in his thinking and experiencing and thus coined the notion of the Nû as the intersection of time and eternity. He is talking of the Nû (=Now) in which time dissolves into eternity²². It is interesting to note that Meister Eckart like St. Augustine includes the human will and its activity as a necessary precondition to attain this highest internal experience. He distinguishes two different ways of the involvement of the will in this process. First there must be an activity of the

²⁰ St. Augustin, conf. XI, 29.

²¹ Here is a comparison: St. Augustin in *De vera religione XXVI, 49, 135*: "sextem omnimodae mutationis in aeternam vitam et usque ad totem oblivionem vitae temporalis transeuntem, perfecta forma quae facta est ad imaginem et similitudinem dei", Meister Eckhart: "sô der mensche ist entbildet und überbildet von gôtes êwicheit und komen ist in ganze volkomen vergezzenlicheit zerganclîches und zîtliches lebens und gezogen ist und übergewandelt in ein götlich bilde, gotes kint worden ist", cf. Ruh, K., Vol. I, 1990, p. 94

²² In his treatise "Vom edlen Menschen (About noble man)", Meister Eckart develops a system of mystical ascension, drawing from St. Augustin, identifying 6 levels. At the top, the 6th level, one can experience the "eternity (êwicheit)". In various sermons he talks about the merging of temporal man with eternity in this particular moment of the Nû (= now), like in sermon Nr. 2, 5B, 15, 38, 50, 69 Quint, J., ⁵1978. For example sermon Nr. 2: "God is in this energy like in an *eternal now*. Would the mind always be united with God in this energy, man could not grow old. Because the eternal now in which God created the first man and the eternal now in which the last man will disappear and the eternal now, in which I talk, these are the same in God and only one eternal now. See, this man lives in one light with God. Therefore in him there is no suffering and sequence of time, but a constant eternity", Quint, J., ⁵1978, p. 162.

will to reach this timeless peak²³, but once it is experienced the activity of the will stops and dissolves in the eternal now²⁴.

Even in the rather rationalistic theology of St. Thomas Aquinas we find such mystical traces, stressing the “Now” (=nunc stans) in its role to serve as a gate to timeless eternity. “[...] quod nunc stans dicitur facere aeternitatem, secundum nostrum apprehensionem. Sicut enim causatur in nobis apprehension temporis, eo quod apprehendimus fluxum ipsius nunc, ita causatur in nobis apprehension aeternitatis, inquantum apprehendimus nunc stans”²⁵. Most important also is Schleiermacher. In his talks about religion he finishes his second talk with the wonderful sentence: “In the midst of the finitude to be one with the Infinite and in every moment to be eternal is the immortality of Religion”. This particular way of experience eternity within time is also described in non-religious contexts such as literature. From the English poet William Blake we do have a wonderful poem, in which this relation is expressed:

*To see a world in a grain of sand
And heaven in a wild flower
Hold infinity in the palm of your hand
And eternity in an hour.*

Part II

Time and mystical consciousness in the world religions

Islam The mystical tradition in Islam had always to struggle with the idea of Allah’s complete transcendence which of course entails its inaccessibility by the mystical ladder. Nevertheless in Islam a strong mystical tradition known as Sufism occurred, in which the unification with God is being sought after by a special technique of spiritual ascension, called *dikr*²⁶. Islamic mysticism does know a special notion, *waqt*²⁷, which identifies the passage from linear time to timelessness and eternity as an attribute of Allah (*dahar*). Though it occurs in the Koran²⁸ in which it also has a slightly different meaning, later it becomes a special notion in the developing mystical tradition signifying the momentary transgression from linear time to the experience of timeless eternity. It is used in the manual of Islamic mysticism *Abu l-Qasim Abd al-Karim*²⁹. In this book the notion of *waqt*³⁰ is used in

²³ “Whenever this will turns from itself and all creatures away in a single moment into its origin, then it becomes right and free again. And in this moment all lost time is recovered”, sermon Nr. 6, Quint, J., ⁵1978, p. 181.

²⁴ “Wherever God is to be born in the soul, all time needs to be removed or lost with its will and desire”, sermon Nr. 38, Largier, N., 1993, 409.

²⁵ St. Thomas Aquinas, STh. I qu. 10, art. 2.

²⁶ The Sufi al-Qushayrī distinguishes four groups of human beings. Those who are oriented towards the past (*ashāb as-sawābiq*), those who are oriented towards the future (*ashāb al-‘awāqib*), those who are oriented towards the present (*waqt*) and finally those who are determined by the truth of God (*dhikr al-Haqq*).

²⁷ Islam knows many other words for time and different aspects of time, Gerhard Böwering, “The Concept of Time in Islam” in Proceedings of the American Philosophical Society, Vol. 141, No. 1. 1997, S. 58-59. Interesting to note, that the most common word for time, *zaman*, is not used in the Koran, also the word for eternity, *qidam* is does not occur.

²⁸ Sure 15, 38; 38, 80

²⁹ “Waqt may have no reality within temporality, but it is also the ultimate reality, which, to ordinary people, would appear to be in time but which is truly timeless” (Franz Rosenthal, 1995, 23)

the context of the mystical ascension of the believer to God. Therefore the Sufi master, who has attained this peak experience, is called the „son of the moment“, *Ibn al-waqt*³¹, free from the chains of past and future³². In this sense the scientist for Islamic studies, Annemarie Schimmel can characterize *waqt* as following: “The Prophet’s expression ‘I have a time with God’ (*li ma’a Allah waqt*) is often used by the Sufis to point to their experience of *waqt*, ‘time’, the moment at which they break through created time and reach the Eternal Now in God [...]”³³. This *waqt*, interpreted as ‘Eternal Now’, reminds very strongly to the Nû of Meister Eckharts, a comparison which is explicitly made by Annemarie Schimmel herself³⁴. As an example for Islamic mysticism Ibn al-‘Arabî genannt should be mentioned (1165-1240)³⁵, who discusses in his main work *al-Futūhāt al-Makkīyah* intensively the problem of time in general and *waqt* particular.

Hinduismus Within the puzzling variety of Hindu religious tradition one reasonably can expect from the mystical Yoga heritage a contribution to understanding and experiencing time and eternity after the Yoga tradition moved beyond the archaic forms of sacrifice, cults and rites. In this sense the Spanish-Indian philosopher of religion Raimundo Panikkar writes: “Later on, *prana*³⁶ is identified with immortality and brahman itself. The important point is that respiration corresponds to an internal time, and it is the mastering of this internal rhythm, especially in Yoga, that leads to the transcending of time – both externally and internally. The transition from the cultic time of the Vedas to the interiorized time of the Upanishads occurs evidently at the point where respiration, interpreted as sacrifice, takes the place of the sacrifice of fire (agnihotra). [...]. The purpose of this and similar practices is patiently to succeed in discovering the unreality of time, and eventually to transcend time”³⁷. It is impossible to describe the complicated entanglement of breath rhythm, nerve activity and consciousness in the various forms of Yoga. Decisive is however that Yoga, denies the independence of time, and interprets it as a feature of the activity of consciousness³⁸. The philosophy of Shankhya teaches a succession of discrete atomistic units of time-consciousness which are called *ksanas*. These *ksanas* are objective in that sense, being rooted in being, as they reflect the motion of Prakriti³⁹. Consciousness is attentive to these *ksanas* and constructs its succession. Thus it is emerging the

³⁰ Cf. the discussion about *waqt*: F. Meier, *Abū Sa’īd-i Abū l-Hayr*, Texts et Mémoires, Leiden, Teheran, Liège, S. 105-109

³¹ “The Sufi is the ›Son of the now‹, [...] the Sufi is delved in the light of the divine majesty, not the ›son‹ of anything, but free from times and states”. Annemarie Schimmel, *Mystische Dimensionen des Islam. Die Geschichte des Sufitums*, p. 190

³² “Breaking through to eternity, the mystics relive their *waqt*, their primeval moment with God, here and now, in the instant of ecstasy, even as they anticipate their ultimate destiny. Sufi meditation captures time by drawing eternity from its edges in pre- and post-existence into the moment of mystical experience”, G. Böwering, *op. cit.* p. 61

³³ Annemarie Schimmel, *Mystical Dimensions of Islam*, The University of North Carolina Press, Chapel Hill 1975, p. 220

³⁴ “Es ist das Wort *waqt*, wörtlich ›Zeit‹, das dann den ›gegenwärtigen Moment‹, den Augenblick, da dem Sufi ein gewisser Zustand geschenkt wird, ja, geradezu den *kairos* bezeichnen kann – oder in mittelalterlicher deutscher Terminologie das ›Nu‹. ›Zeit ist ein schneidendes Schwert‹”. Annemarie Schimmel, *op. cit.* p. 190

³⁵ Vgl. G. Böwering, “Ibn al-‘Arabī’s Concept of Time”, in: *Gott ist schön und er liebt die Schönheit* (Festschrift für Annemarie Schimmel), ed. A. Giese und J.C. Bürgel, Bern 1994, S. 71-91

³⁶ Prana is the universal power of life

³⁷ Raimundo Panikkar, *Time and History in the Tradition of India: Kala and Karma*. In : H.S. Prasad, *Time in Indian Philosophy*, Dehli 1992, p. 29

³⁸ A critical exposition of the philosophy of time in shankhya: S.K. Sen, *Time in Sankhya-Yoga*. In: H.S. Prasad, *op. cit.* p. 505-525

³⁹ Prakriti can be interpreted as matter.

construction and synthesis of the continuity of consciousness (*krama*). The continuity of time in consciousness is according to Shankhya an illusion. One can say that Shankhya and Yoga postulate a discrete theory of time. In this theory the atoms of time are discrete (*ksana*) objektiv and real (*vastu-patita*), the time-continuum however is the product of subjective construction (*krama*), it is unreal (*vastu-sunya*), and thus a deception. A specific feature of this point of view is, that in deep meditation a time-atom which is perceived with highest consciousness can open up to a kind of timeless view of all being, in which no traces of the illusion of past, present and future are being left over. This is expressed in the Patanjali-Sutra⁴⁰, a compilation of different threads of Yoga-philosophy including a commentary. The verses III, 52-54 of the Patanjali indicate the transmutation and opening of the *ksanas* to experiencing of redeemed all-temporality. “A recognition, which is redeemed, which has everything as an object and all aspects of objects, and does no longer know a sequence in time, is a recognition which is born by distinction”⁴¹.

Buddhism The Buddha claims that the solution of the problem of time is not so much in theorizing but in existential experience. In this sense he demands from his followers, to realize the existential resolution of the time problem. Not abstract theoretical discussion, but existential experience is the right way to resolve it. In this sense he compares the one who asks about the nature of time with somebody who is hurt by a poisoned arrow. Such a person is eager to get rid of the poisoned arrow and does not ask where it comes from.⁴² This hint of the Buddha underlines an evaluation of Buddhism in contemporary currents of interpretation. “The whole point of Buddhism may be summed up as living in the present”, says Dhiravamsa⁴³. It is impossible to describe the time conception within the three major braches of Buddhism, Hinayana, Mahayana⁴⁴ and Vajrayana. However a glance on the early Buddhist understanding of being is possible which is underlying the zen-buddhism of Soto Zen. It is described in the main work *Shōbōgenzō* of its founder Dōgen (1200-1253) from Japan. In Buddhism becoming rather than being is understood as the basic category of reality. The basic constituent of reality is only the moment, instantaneity. Everything that is, is in its character momentarily (*yat sat tat ksanikam*). Real is only the instantaneous present in which time and being are intertwined and in which becoming and dissolving are interconnected and follow each other. This is the early Buddhist teaching of universal instantaneity of all being (*ksanikavada*)⁴⁵. These three aspects of mutual entanglement of all being, the connection of being and time and the emphasis of the present as the ultimate reality also play an important role in the Zen-Buddhist philosophy of the Zen master Dōgen, which is a combination of Mahayana-Buddhism und Taoism

⁴⁰ Written by Patanjali, the founder of the philosophy of yoga, ca. 200 BC. Vgl. B. Bäumer, B., (ed.)1979.

⁴¹ Patanjali III, 54

⁴² Meisig, K., 1995, p. 63-68

⁴³ Dhiravamsa, 1977, 33.

⁴⁴ Mahayana-Buddhism is subdivided in Madhyamika, which was founded bei Nāgārjuna (ca. 200/300 B.C.) and Yogachara, represented by Maitreyanatha in university of the monastery Nalanda. Both teach different theories of time, which can be called ontological in the case of Nāgārjuna, in the case of Maitreyanatha idealistic in the context of his philosophy of consciousness. Further information about Nāgārjuna’s conception of time: Walleser, M., vol 2, 1911, p. 111ff, vol. 3, 1912, p. 124ff. More information about Maitreyanatha: Izutsu, T., 1978, p. 309-340. The ontological strand of thought of Madhyamika and the idealistic one of Yogacara are united in the Avatamsaka-Sutrawhich is the climax of the metaphysics of Mahayana. It is also the conclusion of the development of Mahayana in India and prepares the dissemination of Buddhism to China. The Avatamsaka-Sutra is of paramount importance for the origin of Zen-Buddhism.

⁴⁵ It is obvious that such an extreme position of pure present challenges philosophical categories like causality, memory, substance, recognition etc. In fact the struggle about these issues has dominated the philosophy and history of religion in India for many centuries, cf., Balslev, A.N., 1999, 91ff.

In his religious main work, the *Shōbōgenzō*⁴⁶ he articulates the strong relation between being and time. One can speak about time only in connection with being and vice versa. This connection is called «U-ji»⁴⁷, which can be translated as „being-time“⁴⁸. It is also apparent in the human consciousness in its aspects of past, present and future⁴⁹.

However the present is privileged, because it can work as a kind of opening door for a comprehensive experience of time and being⁵⁰. Time in its aspect of pure present is distinguished and can open up to trans-temporality. This is called *Nikon*⁵¹.

By means of the hard training of consciousness in *Zazen*, which focuses on surmounting egocentrism, one can achieve trans-temporality⁵². The particularity of Zen-Buddhist timelessness or trans-temporality, which is based on the ontology of «U-ji», and the interpenetration of all being, is that in experiencing *Nikon* irreversibility of time is extinguished and a symmetry of time with regard to past and future in the enlightened consciousness occurs. This means that in *Nikon* there is a mutual interweaving of past, present and future⁵³.

We have seen that in all mystic traditions of the world religions there exists a connection between linear time and eternity and a specific moment in which by spiritual practice, which includes will power, one can enter in the realm of the latter. In part three it is offered an idea of how one could possibly interpret this transgression on the basis of a universal anthropology by means of neurophysiology described by chaos-theory.

Part III

Time, Eternity and Neurophysiology

In the mystical traditions of all world religions it is of paramount importance to engage in spiritual practice in order to achieve the highest level of spiritual life. However different these spiritual practices are, they do have at least three features in common. *Firstly* they require a certain withdrawal

⁴⁶ Dōgen Zenji, Vol. I, 1995.

⁴⁷ Dōgen Zenji, 1995, p. 91-94.

⁴⁸ «»being-time« means that being is time, time is existence, existence is time», Dōgen, 1995. p. 91

⁴⁹ “Do not regard time only as passing; do not examine the flowing aspect of time. If time really hastened this would be a separation between time and us. If you believe that time is only a passing appearance, you will never understand ‘time-being’. The pivotal meaning of ‘being-time’ is: All creatures in the whole world are cognate and can not be separated from time. Being is time and therefore it is my own true time”, Dōgen, 1995, vol. I, p. 92.

⁵⁰ “Each moment contains the whole world. If we understand this then this is the begin of the exercise und satori“, Dōgen, 1995, p. 91f. “The eternal present contains the infinite space, outside nothing exists”, Dōgen, 1995, p. 93.

⁵¹ “We are always living at the intersection of the horizontal and vertical dimension, that is, between temporality and trans-temporality. *Nikon*, the absolute now, is nothing but the now realized at this intersection”. Abe, M., 1992, p. 100.

⁵² “It occurs by cutting through the horizontal dimensions of time in terms of the concentrated meditative practice of *Zazen*”, Abe, M., 1992, p. 100.

⁵³ “In other words, with the realization of no-self at the absolute present as the pivotal point, past and future are realized in terms of their mutuality and interpenetration, that is, their reciprocity and reversibility”, Abe, M., 1992, 101.

of worldly entanglement by focusing on the interior. *Secondly* they require some technique of bodily exercise to strengthen the will, which is *thirdly* associated in most cases with some kind of regulation of breath.

If these exercises are undertaken on a regular basis the interior system of consciousness gradually changes as a result of a process of self-organization. We have already seen, that in St. Augustine's writings the consciousness of time is correlated to interior activity, one can add: the self-organizing activity of the soul (animus), bringing about a change in the soul from distraction to unification (attractor). As empirical studies have shown with plenty of evidence⁵⁴, experiencing time changes in many ways during meditation⁵⁵. How can this change – especially if the experience of timelessness is made – be interpreted in terms of neurophysiology? I will try a tentative suggestion.

Presupposing that consciousness is an emergent property, as opposed to a dualist conception of the human mind or spirit⁵⁶, of a complex self-referential and self-organizing system, such as the human brain, connected with the nervous system and the respiratory system, then one can argue that such a self-referential complex system can be described by chaos theory⁵⁷.

If this application of chaos theory is appropriate then it must be possible to find physiological correlates to basic features of chaos theory such as iteration, self-reference and (strange) attractors. The question is if the following relations make sense:

Features of chaos theory	Possible correlates of the interior mystic ascension to chaos theory
Iteration	Techniques of Meditation, such as enforced respiration, bodily action (yoga, running, dancing, fasting, sensory deprivation, sleep reduction)
Self-Reference; Self-Organization	Meditation/Cutting of from worldly entanglement
(strange) Attractors	Consciousness of linear time as a rather strong attractor Consciousness of timelessness as another attractor

If one can interpret the rather stable status of linear time consciousness in terms of chaos-theory as a rather strong attractor of the complex system of brain-nervous system-respiratory system (only distorted by sleep or mental disorders like depression, schizophrenia, mania) then one can argue that the transgression from the experience of linear time in everyday life to timelessness in mystical experience is describable in terms of the change of this system from one stable status maintained by an attractor to another stable status maintained by another attractor. The whole array of spiritual techniques then would have the function to destabilize the attractor of everyday life linear time to transform the system in a new stable status of timelessness. Understanding linear time as a stable status of a system maintained by an attractor entails a different understanding of memory and learning as a feature of linear time. Memory then must be understood not as representation rather than the result of how the brain has changed its inner dynamic in terms of self-organized learning processes including

⁵⁴ Survey on empirical studies about meditation and their theoretical interpretation, cf., Engel, K., ²1999.

⁵⁵ Bray, J.D., 1989, Chihara, T., 1977, Chihara, T., 1989, Crowe, R.L., 1989, Handmacher, B.H., 1978, MacRae, J.A., 1983, Sudsang, R., Chentanez, V., and Veluvan, K., 1991, Sussman, A.R., 1987, Taylor, E.I., 1996, Tooley, G.A., Armstrong, S.M., Norman, T.R., and A. Sali, A., 2000

⁵⁶ A dualist approach was advocated especially by John Eccles; Eccles, J.C., ³1994. 1982.

⁵⁷ General introduction into chaos theory, Aichtner, W., 1997.

the establishment of new neuronal patterns⁵⁸. As a consequence expectation is based on memory. Both are most likely localized in the neo-cortex as experiments show⁵⁹.

If this application of chaos theory to the experience of time and in time makes sense, then it should be possible to identify more precisely the parameters that are responsible for such a dramatic change of this system. In addition one may argue that mental distortions mentioned above could also be interpreted as pathological aberrations of “normal attractors” of the brain-nervous system-respiratory system unit. Some work in following this research strategy concerning the application of chaos theory and its attractors⁶⁰ to the brain⁶¹, the nervous system⁶² and pathologies⁶³ has already been done.

In this context especially the pioneering work of Walter J. Freeman has to be mentioned. He reformulates classical concept of “reinforced learning” based on “operant conditioning” by chaos theory and its attractors.

Freeman writes: “We use nonlinear mapping and multidimensional scaling into 2-space to identify itinerant chaotic trajectories through sequences of non-convergent attractor ruins in the attractor landscapes of brain state space. The attractors are created and modified by reinforcement learning based on classical and operant conditioning”⁶⁴.

This basic strategy, I guess, may also be applicable to time-consciousness as realized in every-day experience and in meditation. One only has to substitute “learning” by “meditation” based on some kind of itinerate stimulation of the brain, like breathing or memorizing a mantra. In particular Freeman has found that the transitions of a stable equilibrium to another one can be characterized by the transition from one attractor to another. “A major discovery is evidence that cortical self-organized criticality creates a pseudo-equilibrium in brain dynamics, that lets us model cortical mesoscopic state transitions as analogous to phase transitions in near-equilibrium nonliving systems like boiling or condensing water”⁶⁵. Freeman has begun also to apply his new concept on the experience of time: “This new knowledge provides us with the neural correlates of consciousness and various states of awareness and sleep. Applications in neurophilosophy include reformulations of classic concepts of intentionality, causality, emotion, the perception of time, and the neurobiology of meaning, which we characterize as the ontological interrelation of an intentional system with its environment including other intentional systems”⁶⁶.

The problem is to make this application of chaos theory and attractors to time-perception more precise. Freeman mentions already the central role of the Neo-cortex in maintaining stability of the brain⁶⁷. This leads to the question whether or not specific areas of the brain – not neglecting the interactions with other areas – can be identified to generate specific forms of the experience of time. Hans Förstl

⁵⁸ Edelman, G.M., 1993, 344-351

⁵⁹ Eccles, J.C., 1984, 367-370; Ingvar, 1985.

⁶⁰ Concerning the attractors: Freeman, W.J., (2005), 92: 350-359.

⁶¹ Horner, H., ²1990, p. 275-282.

⁶² Concerning the self-organization of the nervous system: Freund, H. J., ²1990, p. 201-215

⁶³ Concerning psychotic states: Heimann, H., ²1990, p. 215-227.

⁶⁴ <http://sulcus.berkeley.edu/>

⁶⁵ <http://sulcus.berkeley.edu/>

⁶⁶ <http://sulcus.berkeley.edu/>

⁶⁷ “Neocortex is unique among cortices in maintaining global self-organized criticality, in which the critical order parameter is the global level of neural synaptic interaction that everywhere locally is homeostatically regulated by neural thresholds and refractory periods”, <http://sulcus.berkeley.edu/>

mentions three areas of the brain, which are responsible for generating the awareness of past, present and future, illustrated by their dysfunction in case of illness.

For our purpose of mystical experience of timelessness these localization of time with specific brain areas is of importance insofar as it helps to make the question of how to apply chaos-theory to the experience of time more specific and testable⁶⁸. According to Förstl the brainstem and limbic system and the basal nucleus are in particular areas which generate the consciousness of the *present* by producing the neurotransmitter of acetyl-choline. Respiratory control in combination with pain sensitivity control, alertness, and consciousness in general is also located in this area. All these functions are essential for meditating. Stimulation of this area of the brain by iterative breath activity in meditation thus brings about more awareness of the present. This could be empirically tested by checking if the production of acetyl-choline changes during meditation. A decrease of oxygen consumption has already been verified in numerous empirical studies in the case of meditation as relaxation⁶⁹, whereas in deeper advanced meditation an increase of oxygen consumption and physiological activity occurs⁷⁰. In addition it becomes clear, that in case of the focusing on particular brain areas in meditation, such as the brainstem and the limbic system, other parts of the brain are neglected, like the frontal lobe, which in turn corresponds neatly with the gradual disappearance of the future in meditation. However it remains to be understood, how this initial attention and iterative stimulation of this part of the brain leads finally to the experience of eternity as timelessness, cut of from the attention to past and future. Since we have seen that the activation systems of alertness and consciousness, breathing and awareness are all located in the brainstem one could argue that a distortion of the fine-tuned mutual interaction of inhaling and exhaling neurons in the brainstem by meditation could lead to an integration into a more wide spread control system with more complex iterative processes of the brain⁷¹. In any case the iterative process has also its phenomenological equivalence in a gradual increase of awareness and concentration connected with specific ways to experience time⁷², such as in quiet sitting (shrinking of time), meditation (stretching of time) absorption (now), and finally kensho (eternity), the latter leading to the experience of timelessness⁷³. In this level oriented model we encounter an increase of intensity of consciousness which fits well to an increase of internal activity as exhibited in an increase of energy (oxygen) consumption⁷⁴. This point of view is also underlined by experiments that show a global gamma coherence (see contribution of U. Ott in this volume). If one accepts that the phase transition from linear time to eternity as timelessness corresponds with the embedding of the respiratory system into a higher control system of

⁶⁸ Förstl, H., „Parts of the Brain Represent Parts of the Time. Lessons from Neurodegeneration“, p. 3-4; 6-7

⁶⁹ The physiology of breathing is a rather complicated process. Selection of literature: Austin J.H. ²1998, 93-99; Block, S., et al, 1991; Von Euler 1986; Freeman, D., et al. 1981, Benson, H., et al., 1977a. Further literature: http://www.noetic.org/research/medbiblio/ch2_3.htm

⁷⁰ Benson, H., et al., 1990.

⁷¹ Neurons controlling in a complex interplay inhaling and exhaling, cf.: Birbaumer, N., Schmidt, R.F., 62006, 204-205

⁷² Different ways to experience time in meditation are compiled in Marshal, P., 2005.

⁷³ Austin, J.H., ²1998, 561-567. This interpretation with chaos theory as a tool to understand the dynamic of a system differs from the approach of James H. Austin, who holds that the disappearance of time in meditation is due to the breakdown of time as a construct of our brain based on the interweaving of different spheres and experiences in the brain. “[...] our sense of time would seem to extend through much of the whole brain, involving regions on both sides that function in an integrated manner. Timelessness is *letting go* of all this. Through a process of transient disconnections, jammings, or bypassing”, Austin, J.H. ²1998, 567.

⁷⁴ There are many models that try to identify various levels of consciousness. For example: Davidson, R.J., 1975; Alexander, Ch. N. and Boyer, R.W. 1989; Alexander, Ch. N., et al. 1990.

the brain, when it resonances with it, associated with a higher degree of consciousness, then one could interpret the experience of a timeless now as the phenomenological equivalent of a resonance catastrophe.

Part IV Trinity

So far we have discussed eternity understood as timelessness from an anthropological angle, arguing that it must be understood as a universal property of the self-organizing brain, which brings about the mind as an emergent trait being connected with different modes of time including eternity as a high level state.

From this point of view it should have become clear, that eternity from a theological point of view can not be identified with mystical timelessness, though God's eternity as the creator certainly also is opposed to mundane time and in this sense is timeless. Taking serious that to God the creator eternity belongs as an essential feature, one must come to the conclusion, that there must be an essential relation with the Trinitarian concept of God, his eternity, and as a result of his acting, with time. In addition, if it is true that the Jewish-Christian God has a relation to his creation and chosen people then there must be a connection between divine creativity and mundane time, not to any time but to that time, which is formed in a particular sense by God's activity, which is the history of Jews and Christians (Heilsgeschichte). Thus a necessary ingredient of such a relation between election, history and the category of novelty is Trinitarian thinking.

This connection between eternity and trinity lacks sophisticated theological elaboration in traditional theology. In fact, the basic concepts of eternity in Western theology are not associated with Trinitarian thinking. For instance the classical definition of eternity stemming from Boethius (475-525) defines eternity as opposed to the deficient mode of human experience of time. "Eternity is the entire and complete possession of unlimited life, which becomes clear in comparison with temporality"⁷⁵, *Consolatio V*, 6. It is not a coincidence that time is defined by Boethius in this way, because this definition is not the result of his reasoning about time and eternity but serves the function of making intelligible that divine foreknowledge and human free will are compatible. The argument is, that the divine spirit as the entire and complete possession of unlimited live has an instantaneous knowledge of all mundane actions, without being limited by time in terms of past, present, and future, as human knowledge is. Therefore there is no divine foreknowledge at all, because he encompasses all knowledge instantaneously. For this reason the free human will and divine knowledge are compatible. However this historical context of the free-will debate in antiquity was overlooked in the theological tradition and its definition of eternity was decontextualized when it was incorporated by the theological heritage. This is for example the case in St. Thomas Aquinas. Drawing from both Boethius and Aristotle, St. Thomas Aquinas⁷⁶ (1225-1274) also defines eternity as a kind of divine alternative to the deficiencies of time in the mundane world.

"Eternity is in its essence a consequence of immutability like time in its essence is a consequence of motion, as it has become clear from the aforementioned. Because God is most of all immutable,

⁷⁵ "Aeternitas est interminabilis vitae tota simul et perfecta possession, quod ex collatione temporalium clarius liquet".

⁷⁶ STh I qu. 10, art. 1

therefore he is most of all eternal”⁷⁷.

However, if the Platonic understanding of eternity as timelessness and as a divine mode of overcoming mundane deficiency of time is true, there is no way to think about an essential relation between eternity and time. But if eternity has to be associated with the creative triune God as creator, sustainer, redeemer and the one who consummates time, then this means that firstly eternity has to be redefined and secondly that there must be relations between the different triune persons and their relations to different modes of mundane time.

This understanding of time from a Trinitarian perspective was first partly elaborated by Karl Barth in his *Church Dogmatics*⁷⁸, after he had analyzed very astutely the relation between time and eternity⁷⁹. However his account was only addressing the father and the son in their relation to time. He omitted completely the Holy Spirit. This theological way of thinking was again taken up by Ingo Dalferth⁸⁰. He included the Holy Spirit and related it to the diversity of times, as are apparent in different physical theories, whereas Michael Welker started with the Holy Spirit attributing to him certain biblical traits like history or the liberation from bondage⁸¹. Antje Jackelen also tried to associate Trinitarian thinking with time, but finally rejected that Trinitarian thinking could be meaningfully related to the time-eternity problem⁸².

However one gets the impression of all these attempts that they deal with some kind of speculative Trinitarian mathematics.

If one starts from biblical witness and the traditional dogmatic method of the “ordo cognoscendi” one must look upon the works of the Spirit, as the guiding power of God operating in the world. Doing this reveals very quickly that the Spirit as one part of the Trinitarian God is related to its operation in biblical history and its account of the history of salvation (Heilsgeschichte) and the history of contingent new events. Thus one can say that the Spirit is the driving force of God in history, which brings about change and novelty. The son of the redeemer is the power of God, which works against the decay in the world, finally in overcoming death in his crucifixion, whereas God the creator is related to the creation of the timely character of the world and its different time-structures.

⁷⁷ „Respondeo dicendum quod ratio aeternitatis consequitur immutabilitatem, sicut ratio temporis consequitur motum, ut ex dictis patet. Unde, cum Deus sit maxime immutabilis, sibi maxime competit esse aeternum. Nec solum est aeternus, sed est sua aeternitas, cum tamen nulla alia res sit sua duration, quia non est suum esse. Deus autem est suum esse uniforme, unde, sicut est sua essential, ita est sua aeternitas”, S.Th. I qu. 10, art. 2

⁷⁸ KD II, 1, 694-722. „On the contrary, the fact that God has and is Himself time, and the extent to which this is so, is necessarily made clear to us in His essence as the triune God“, CD II, 1, 615 (Original in German: KD II, 1, 694).

⁷⁹ „To assert the reality of time in the face of an in spite of these difficulties without the desire or the ability to set them aside, or even without letting oneself be worried by them, is perhaps in practice only possible for theology when it is revelation theology, and as such in a position to reckon not only with these two times, but in addition, with a quite different time“, CD I, 2, 49. (Original in German: KD I, 2, 54).

⁸⁰ Dalferth, I., U., 1994, 9-34

⁸¹ „Through the activity of the Spirit, certain constellations of creatures are again and again torn from certain constancies and historical processes of development in salvific ways and led into new continuities and historical processes of development in corrective and healing manners. Through the Spirit, God’s creative powers are mediated and become known as saving and renewing powers that, without interruption, act upon and through creatures”, Welker, M., 1998, 326.

⁸² „Der Versuch, möglichst exakte trinitarische Modelle zu entwickeln, um mit ihrer Hilfe das Verhältnis von Gott, Zeit und Ewigkeit zu erklären, erweist sich demnach nicht als der richtige Weg“, Jackelén, A., *Zeit und Ewigkeit. Die Frage der Zeit in Kirche, Naturwissenschaft und Theologie*, Neukirchen-Vluyn, 2002, 267

Persons of Trinity	Time structure
Holy Spirit	Driving force of biblical history (Heilsgeschichte) Creative Power to create something new in the historical process
Christ	Redeeming Time Renewing Time
Father	Creating time Maintaining Time

Eternity thus understood is not timelessness in a mystical sense or the compensation of the mundane deficiencies of time as in traditional concepts of eternity in theology, but one has to understand eternity as the simultaneous intersections of divine operations creating, maintaining, redeeming and renewing and pushing time forward and creating new times in history. This is a rather complex configuration of divine actions due to the traditional theological insight that God operates in all his persons simultaneously (*opera ad extra sunt indivisa*). This concept is very tentative and needs to be elaborated in more detail.

One aspect of understanding biblical history as guided by the Spirit, in particular by the work of the prophets as being the chosen actors of the divine election, is the occurrence of contingent novelties which become cornerstones to substantiate subsequent historical processes (for example the new understanding of creation in second Jesaja). There is only a tiny track of divinely guided history within general history. Therefore there is no way of prediction of these novelties, because they are not consequences of contemporary currents. Although there is no intellectual conceptualization of the work of the Spirit, generating novelty – Pannenberg's⁸³ claim to identify the Spirit with a field is absolutely misguided and is a setback compared with the insights of the Reformation to combine the Spirit with the preached word as opposed to the Stoic naturalism of the Spirit – one can argue that some kind of involvement for human actors in these historical processes is possible by sharing the *perspective* of the Spirit⁸⁴. Partaking in this perspective means not to understand future from the perspective from the present but the present from the perspective of the future. Such a perspective overcomes the theoretical constraints of physical theories like classical mechanics and even chaos theory that still operate from a focus on the present conditions. It is only from a higher level of the Spirit that one can understand the present from the future and real novelties occur. Thus understood divine Spirit and the novelties generated in time by it never can be conceptualized in terms of an immanent development like in modern theories of emergence. Thus the idea of a *perspective* can be used as a link to compare in a differentiated and meaningful way the outlook on history, future and novelty both in science and Christian theology. In the following schema it turns out that there is a continuous *broadening* of these perspectives. Starting with the rather narrow perspective of simple classical deterministic outlook to the one can see that there is a continuous decrease of control over future and a continuous increase of possible novelties. This strikingly corresponds with the traditional theological understanding that the Spirit is free (Joh. 3, 8) and leads to novel unpredictable events (Joh. 16, 13). However the contingent operation of the spirit does not necessary preclude any human involvement, because in the gift of believing and hoping and thus sharing a particular Christian

⁸³ Pannenberg, W., 1996, 257-260.

⁸⁴ The application of the notion of perspective goes back to Dietrich Ritschl's application to the biblical stories as elaborated in: Ritschl, D., 1984. It is now widely discussed in theology, for example: Dalferth, I., 2004.

perspective the directionality of causality from future to present as working in the Spirit is foreshadowed. Thus hoping for something new, which is not yet realized, can change in a causal manner the present. Therefore in a certain sense, believing can operate as a kind of turn around of causal directionality. This of course is not possible in a setting of naturalism or nature but only in the realm of real contingencies which is human history, whereas in natural history and the evolutionary process this kind of causality is not possible, because in this realm the operating forces are that of statistical and self-referential structure.

Structure of Perspective	Structure of future	Novelty	Computability
Simple Systems: Classical mechanics	Deterministic Present determines future	None	Absolute Computability (exception: Three body problem)
Correlated Systems: Quantum mechanics	Statistical determinism Present determines future	None	Probability of events
Recursive Systems: Chaos Theory	Deterministic, but not predictable Present determines future	Adaptive novelty	Though deterministic, not predictable
Spirit	Not deterministic, not predictable Future determines present	Absolute Novelty	No computability in eschatology. Computability in apocalyptic thinking is misguided.

Thus the future plays a decisive role in the Judeo Christian tradition, understood as governed by the Spirit, an inaccessible transcendent force, rooted in the Trinitarian God, but being foreshadowed in believing and hoping, sometimes in such a intense way that an elected human being like a prophet is dignified to be included in divine history.

The Christian understanding of time and eternity from a Trinitarian perspective shows some remarkable peculiarities in comparison to other world religions. It seems that most world religions have some particular focus on their understanding and religious esteem of time. Whereas natural religions have a focus on the past by ancestor worship, eastern religions with their mystic approach have a focus on the present favoring to delve into mystical timelessness, Judaism and Christianity have a focus on future, in which present and past however are included.

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