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NĀḌĪPARĪKṢĀ AS DIAGNOSTIC AND PROGNOSTIC
TECHNIQUE IN SANSKRIT MEDICAL LITERATURE
AND THE *NĀḌĪVIJÑĀNA* OF KAṆĀDA

*nāḍyā mūtrasya jihvāsya lakṣanam yo na vindati /
mārayatyāśu vai jantum sa vaidyo na yaśo bhajet //*¹

“The physician who doesn’t know the signs of pulse, of urine and of tongue, soon will kill the patient and doesn’t win a good reputation”.

From 15th century *Āyurveda*² gets ready *Aṣṭasthānaparīkṣā*, the basic semiotic method to examine the patient. It includes: the exami-

LIST OF ABBREVIATIONS: A.h.: Aṣṭāṅgahṛdayasaṃhitā. – A.s.: Aṣṭāṅgasamgraha. – AV.: Atharva Veda. – Bhā.pra.: Bhāvaprakāśa of Bhāvamiśra. – Ca.: Carakasamhitā. – Ci.: Cikitsāsthāna. – In.: Indriyasthāna. – Ka.: Kalpasthāna. – Mā.ni.: Mādhavanidāna. – MW.: Monier-Williams, Sanskrit-English Dictionary. – Nā.vi.: Nāḍīvijñāna of Kaṇāda. – Nā.pa.: Nāḍīparīkṣā of Rāvaṇa. – Ni.: Nidānasthā. – Śā.: Śārīrasthāna. – Śārṅga.: Śārṅgadharaśamhitā. – Su.: Suśrutasamhitā. – Sū.: Sutrasthāna. – Toḍarānanda.: Toḍarānanda-Āyurveda Saukhyam. – Vi.: Vimānasthāna. – Yo.: Yogaratnākara.

1. *Yogaratanākara, aṭha roḡināmaṣṭasthānarīkṣaṇam*, 6. *Samhitā* composed by an unknown author between 1650 and 1725 covers the whole medicine with the exception of surgery and anatomy (J. Jolly, *Indian Medicine*, New Delhi, third edition, p. 3, 155).

2. For the definition of *āyurveda* see: Ca. Sū. I, 42. *Carakasamhitā, Agniveśa’s Treatise refined and annotated by Caraka and redacted by Drḍhabala, text with English Translation*, editor-translator Prof. P.V. Sharma, 3 vol., Varanasi, 1975. *Carakasamhitā, Text with English Translation and Critical Edition based on “Cakrapāṇi Datta’s Āyurveda dīpikā”* by R. K. Sharma and B. Dash, Varanasi, 1983.

nation of *nāḍī* (pulse), *mutra* (urine), *mala* (feces), *jivha* (tongue), *śabdaḥ* (voice), *sparśa* (by touching), *ākṛti* (appearance), *dr̥k* (sight).

During the times, until modern *āyurveda*, the *nāḍīparīkṣā* became in the modern practice of *āyurveda* the most important³ – and quite the unique – method of *Aṣṭasthānaparīkṣā* used from the *vaidya*⁴.

Nevertheless in the classical *saṃhitā*⁵ we can't find any reference to the possibility to have any indication on the diseases or on the health of the patient by touching a *nāḍī* or a *dhamani* or other one of the components of the system of the pipes they carry the *rasa* (nutrient fluid)⁶ or *prāṇa* around the body⁷.

3. On the connection between classical and modern *Āyurveda* and western medicine (biomedicine) and on the syncretic interpretation of classical medicine in Indian *āyurvedic* scholars and doctors, see: Ekedra Nath Gosh: “The pulse conditions in various diseases according to *āyurvedic* medicine”, in *The Journal of Āyurveda*, 4 (1927-1928), pp. 453-460; 5 (1928-1929), pp. 13-20, 66-75, 340-347; 6 (1929), pp. 104-11, 151-158, 166-176. “Pulse in fever according to *āyurvedic* medicine”, in *The Journal of Āyurveda*, 6 (1929-1930), pp. 260-269. “The pulse in prognosis of diseases according to *āyurvedic* medicine”, in *The Journal of Āyurveda*, 6 (1929-1930), pp. 334-340, 454-463; 7 (1930-1931), pp. 12-19, 50-60. See also P. Chatterjee, *Indian Science of Pulse, Compiled in Sanskrit, with English Translation by the Author*, vol. I, Calcutta, 1934.

4. C. Leslie, “Ambiguities of Revivalism in India”, in *Asian Medical Systems*, Editor C. Leslie, Berkeley, 1976, pp. 356-357.

5. *Carakasamhitā*, *Suśrutasaṃhitā*, and *Aṣṭāṅgahṛdayasaṃhitā* are traditionally known as “The Threesome of the Great Works of *Āyurveda*” (*bṛhatrayī*). With *ṛddhatrayī* “The Threesome of Lesser Works”, the tradition calls a group of more recent *saṃhitā*: *Mādhavanidāna*, *Śārṅgadharaśaṃhitā* and *Bhāvaprakāśa* of *Bhāvamiśra*.

6. *Suśruta Saṃhitā of Suśruta with the Nibandhasaṃgraha Commentary of Śrī Dalhaṅāchārya*, edited by J. Trikamji Āchārya, Varanasi, 1980. Su. Sū. XIV, 13: “*rasa* is derived from movement.” *Rasa* is the first and the most important of the seven *dhātu* (elements of the body), with *rakta* (blood), *māṃṣa* (flesh), *medas* (fat), *asthi* (bone), *majjā* (marrow), *śukra* (semen). During the transformation each *dhātu* is separated in *prasāda* (pure matter) and in *kiṭṭa* (waste matter). Three different interpretations of the process of transformation of *dhātu*: 1. *kṣīradadhinyāya* (the law of transformation); 2. *kedarikulyānyāya* (the law of transmission); 3. *kalhe-kapotanyāya* (the law of selection) (Ca. Sū. XXVIII, 4). Su. Sū. XIV, 15 accept that all *dhātu* are transformed into each other in the time of three thousand and fifteen *kalā*, thus from *rasa* to *śukra* the complete transformation is in eighteen thousand and ninety *kalā*.

7. On the meanings of *nāḍī* in classical *Āyurvedic* literature, see: S. D. Upadhyay, *Nāḍīvijñāna (Ancient Pulse Science)*, New Delhi, 1986, p. 11-14.

Nāḍī has many meanings: the tubular stalk of any plant or any tubular organ, any tube or pipe⁸. *Nāḍī* in the Vedic literature means tube or conduct of the human body or spermatic duct⁹.

In Su. Śā. III, 29 means the vessel of the navel cord or the complete umbilical cord (*garbhanābhināḍī*)¹⁰.

Nāḍī is also «fistula»¹¹ and *nāḍīvraṇa* is sinus of suppurated material from an ulcer (*vraṇa*)¹².

Nāḍīyantra indicates a group of surgical instruments – tubular or flat – to explore or to extract a foreign body from a wound¹³.

Ca. In. III, 3-4 states: “If [the physician] wants to check the remaining span of life of a patient only on the basis of tactual signs, should touch the entire body of the patient with his palm... The following points are required to be observed with touching: absence of pulsation in such of the organs of the body which constantly pulsate”. Ca. In. III, 6: “...the physician should carefully examine the exhalation, *manyā*... The following conditions are indicative of imminent death: if there is no pulsation in his *manyā*...”.

We can find here some reference to the pulsation of the organs which normally pulsate like a kind of simple diagnosis, but only about evidence of life instead of death: if there is pulsation in *manyā* – one of the *marma*¹⁴ – there is life; if there isn't, there is death, but it's impossible to interpret this statement in the sense of a *nāḍīparīkṣā* in *nuce*.

8. M. Monier-Williams, *A Sanskrit-English Dictionary*, New Delhi, 1990 (first ed. 1899).

9. AV., VI, 138, 4. J. Filliozat, *La doctrine classique de la médecine indienne. Ses origines et ses parallèles grecs*, 2e éd, Paris, 1975, p. 124; pp. 129-130.

10. Ca. Vi. V, 9; Ca. Śā. VI, 23, 29.

11. Su. Sū. XVII, 13; A.h. Ut. XXIX, 26b-28b.

12. *Aṣṭāṅgahrdayasaṃhitā of Vāgbhata, Text, English Translation, Notes, Appendix and Indices*, translated by R.K. Srikantha Murty, 3 vol., Varanasi, 1996. A.h. Ut. XXIX, 26b-28b; Mā.ni. 45, 1-6

13. Su. Sū. VII, 4; 13. G. Mukhopadhyaya, *The Surgical Instruments of the Indus*, New Delhi, 1987, 1st edition 1913-1914, pp. 71, 72, 74, 83. G.D. Singhal, *Fundamental and Plastic Surgery Considerations in Ancient Indian Surgery*, Varanasi, 1981, 127-128, 130, 132-133.

14. The one hundred and seventy *marma* (vital points) (\sqrt{mr} , death) identify these zones of the body where a wound or a surgery can be very dangerous or mortal (Ca. Śā., II, 14). Jolly, *op. cit.*, pp. 37, 54.

The first indication of *nāḍīparīkṣā* is in *Śārṅgadhara saṃhitā* (*atha nāḍīparīkṣādividhiradhyāyaḥ*, vv. 1-8)¹⁵, one of the most popular treatises on āyurveda¹⁶.

<i>karasyānguṣṭamūle yā dhamanī jivasāksinī /</i>	
<i>tacestaya sukham dukhram jneyam kāyasya panditaiḥ //</i>	1
<i>nāḍī dhatte marutkope jalaukāsarpayorgatim /</i>	
<i>kuliñkākamandūgātim pittasya kopataḥ //</i>	
<i>himsapārāvataगतim dhatte śleṣmaprakokopataḥ /</i>	2
<i>lāvattiravartinām gamanam sannipātataḥ /</i>	
<i>kadācinmandagamanā kadāciddegavāhinī //</i>	
<i>dviḍoṣakopato jñeyā /</i>	3
<i>anti ca sthānavicyutā /</i>	4
<i>sthitvā sthitvā calati yā sa smṛtā prāṇagāṣinī /</i>	
<i>atīkṣiṇā ca sītā ca jivitam hintyasamśyam //</i>	5
<i>jvarakopeṇa dhamanī soṣṇā vegavatī bhavet /</i>	
<i>kāmakrodhādvegavahā kṣiṇā cintābhayaplutā //</i>	6
<i>mandāgne kṣiṇadhatośca nāḍī mandatarā bhavet /</i>	
<i>asṛīkpurṇā bhavetkoṣṇā gurvī sāmā gariyasi //</i>	7
<i>ladvī vahati dīptāgnestathā vegavati matā /</i>	
<i>sukhitasya sthīrā jñeyā tathā balavatī smṛirtā //</i>	8
<i>capalā kṣudhitasyāpi triptasya vahati sthīrā /</i>	9

The pipe (*dhamani*) at the base of the thumb is an indicator of life. From its activity the expert [in pulse reading] can recognize the good health¹⁷ or bad conditions of the body. 1
The pulse beat is like the movement of a leech and a snake in the event of the disorder of *vāta*; in the disorder of the *pitta* the pulse beats like the movement of a sparrow, a crown or that of a frog. In the event of a disorder of *ślesma* it beats like the movement of a swan or that of a pigeon. 2
In the event of a combined derangement of all the three *doṣa* of the body, it beats like the movement of a quail and that of a partridge. 3

15. *Śārṅgadhara saṃhitā* by Śārṅgadhara, Translated into English by Āyurveda-Vidwān K.R. Sriksanta Murthy, Varanasi, 1995. The *saṃhitā* is to be placed about 1500 A.D., but since there is a commentary by Vopadeva who flourished about 1300 A.D., and must have been written at the latest in the 13th century. (Jolly, *op. cit.*, p. 5).

16. Cf. D.Wujastyk, *The Roots of Āyurveda*, New Delhi, 1998, pp. 302-304.
17. Ca. Sū. XXX, 22-24; Ca. Sū. I, 41-42; Ca. Sū. XXX, 26 for definition of "life".

A pulse beat which is slow at one time and fast on the other signifies the disorders of two <i>doṣa</i> and it kills the patient when it is in no proper order.	4
Also the one which beats with stops is know to destroy the life. The pulse which is too weak and cold, no doubt, destroys the life.	5
In the event of rise in the temperature the pulse is warm and fast; it becomes fast on account of excessive love and anger, but becomes feeble in the event of fear and anxiety.	6
The pulse of one with weak digestion and wasted away humour is even weaker; in the event of (high) blood pressure it becomes heavy and warm, its becomes heavy like a stone, sick and heavier.	7
The pulse of one with good digestion is light and it is said to be fast. The one of a healthy people is constant and it's said to be forceful.	8
The pulse of one who is hungry is unsteady and that of one satisfied is constant.	9

The works on *nāḍīśāstra* in the Sanskrit medical literature belong to two groups:

- monographic works¹⁸
- treatment on the topic in the diagnosis section of a *saṃhitā*¹⁹.

From the first group we have examined the *Nāḍīvijñāna* of Kaṇāda and the *Nāḍīparīkṣā* of Rāvaṇa²⁰.

18. G.J. Meulenbeld, *A History of Indian Medical Literature*, Groningen, 2000, volume IIA, pp. 421-433. V. Raghavan, *New Catalogus Catalogorum, an Alphabetical Register of Sanskrit and Allied Works and Authors*, volume Ten, Madras, 1978, pp. 28-29; P.V. Sharma, R.S. Tripathi, *A Descriptive Catalogue of Manuscripts on Ayurveda in the Banaras Hindu University*, Varanasi, 1984, pp. 61-62. D. Wuyastik, *A Handlist of Sanskrit and Prakrit manuscripts in the Library of the Wellcome Institute of Medicine*, London, 1965, pp. 190-191. B.R. Rao, *A Check List of Sanskrit Medical Manuscripts in India*, New Delhi, 1972, pp. 36-37.

19. G.J. Meulenbeld, "The Surveying of Sanskrit Medical Literature", in *Proceedings of the International Workshop of Priorities in the study of Indian Medicine*, ed. by G.J. Meulenbeld, Groningen, 1984, pp. 45-46; p. 65.

20. *Nāḍīvijñāna of Mahārṣi Kaṇāda with Viyotini Hindi Commentary*, edited by Dr. I.D. Tripathi, Varanasi, 1957. *Nāḍīvijñāna of Mahārṣi Kaṇāda*, edited by A. Vidyasagana, revised and enlarged by A.B. Vidyabhuṣana and N.B. Vidyaratna, Calcutta, 1921. *Nāḍīparīkṣā of Rāvaṇa*, edited by G.P. Upadhyaya, Varanasi, 1981.

From the second group we have examined – besides *Śārṅgadhara saṃhitā*:

- *Bhāvaprakāśa*²¹. This work was written no later than 1558-1559. *Bhāvaprakāśa* is the first text of Āyurveda to describe syphilis (*piraṅgaroga*) and the drug used to treat it (*cobaḥinī*) and both disease and drug were imported into India by the Portuguese about 1535²². The verses 11-22 of *rogi parikṣāprakaranam* illustrate the method of *nāḍīparikṣā*.
- *Yogarātnākara*²³. The author is unknown. It covers whole medicine with the exception of surgery. It cannot be composed later than 1746, the date of the earlier manuscript used for the edition²⁴. Vv.1-8 of «*atha rogināmaṣṭhaṣṭhānanirīkṣaṇam*» and vv. 1-43 of «*atha nāḍīparikṣā*» describe the diagnostic method, linked with classical nosology of *āyurveda*.

*Toḍarānanda-Āyurveda Saukhyam*²⁵

The *saṃhitā* is one of twenty three encyclopaedic works on different topics written around 1590 by different authors, commissioned by Toḍara Malla²⁶. The *saṃhitā* tries to compose from many different sources the most complete exposition of the Āyurveda. Chapter 6, 1-25 illustrates *nāḍīparikṣā*.

We will try to illustrate *nāḍīvijñāna* and *nāḍīparikṣā* by the description of the method as it is illustrated in quoted works on this topic²⁷ –

21. *Bhāvaprakāśa of Śri Bhāvamiśra*, edited with «Vidyotini» Hindi Commentary, Notes and Appendix by Śri Brahmaśaṅkara Miśra and Śri Rūpalālaḥ Vaiśya, Varanasi, 1993 (first edition, Varanasi, 1961).

22. Jolly, *op. cit.*, p. 3.

23. *Yogarātnākara*, with «Vidyotini» Hindi Commentary by Vaydia L. Śāstrī, edited by B. Śāstrī, Varanasi, 1993 (first edition, Varanasi, 1955).

24. Jolly, *op. cit.*, p. 3.

25. *Toḍarānanda-Āyurveda Saukhyam series*, edited by Bh. Dash and L. Kashyap, 9 vol. New Delhi, 1980.

26. Vizir and Governor of Gujarat with Imperator Akbar (1556-1605). See A.T. Embree, F. Wilhelm, *Storia Universale Feltrinelli-India*, Milano, 1978, pp. 26-247.

27. A. Chiantaretto, *Il Nāḍīvijñāna di Kanāda. La pulsologia nei testi della medicina Āyurvedica*, Torino, 1996-97. Tesi di Laurea, Facoltà di Lettere e Filosofia dell'Università degli Studi di Torino.

they are quite different from the point of view of extension, bigger in monographic works than in encyclopaedic works – and wrote during a very long period, from the Middle Age of *Śārṅgadhara saṃhitā* to the 18th century of *Yogarātnākara*.

But the method remains basically unchanged from *Śārṅgadhara saṃhitā* to *Yogarātnākara*. What is changing is that during these many centuries *nāḍīparīkṣā* is applied to a growing numbers of problems of diagnosis and prognosis and becomes more and more important in the practical medicine and, finally, is definitively included in the corpus of *Āyurveda*, as a part of *Aṣṭasthānaparīkṣā*.

Thus, *Āyurveda Saukhyam* by Todarananda, 6, 26-27 says: “According to Ātreya, first of all the physician should examine the patient by *darśana* (examining), *sparśana* (touching), *praśana* (questioning) and *nāḍīvijñāna* (pulse reading) and thereafter he should determine the exact nature of the disease”. All the chapters of *Caraka saṃhitā* and others medical *saṃhitā*, like *Astāṅga Hrdayam*, *Astāṅga Saṃgraha*, etc. start with the reference to him. Ātreya, venerable ṛṣi, favoured of Indra, is the first man who learnt the medicine from Gods and gave that to the mankind²⁸.

“*Iti ha smāha bhagavān Ātreya*” (“In this way Ātreya spoke”). If Ātreya spoke on *nāḍīvijñāna*, *nāḍīvijñāna* too is revealed from Gods to the mankind and then it’s definitively included as integral part of revealed *Āyurveda*.

The anatomy of nāḍīparīkṣā

“The pipe at the base of the thumb is a indicator of life” 29.

“The physician must examine through the palpation the *nāḍī* at the root of the thumb” 30.

“[The physician] must examine at the wrist the *nāḍī* or the *dhamani* that runs from the right hand to the right foot, at the root of the thumb”,

28. J. Filliozat, *op. cit.*, p. 57.

29. *Śārṅga*. “1, 3,1 *karasyānguṣṭhamūle yā dhamanī jivasāksinī*”.

30. Nā.vi., 7: “*ekā parīkṣāṇīyā yā dakṣiṇakaracaranāvinyastā*”.

because

“there is a pipe passing through the wrist, which is situated in the middle of other pipes, it has been named as the life-pulse³¹ by the scholar Nandī”³².

“The pipe situated at the root of the thumb is specially examined”³³.

“A physician should carefully feel the pulse of the females in the left hand and in the left foot and the pulse of the males should be felt on the right side”³⁴.

There is also the prescription to examine the same *nāḍī* on the right foot³⁵, and the palpation of the *nāḍī* on the foot is prescribed together with the *nāḍī* of the pulse, of course at right in the man and on the left for the woman³⁶.

There is also the indication to the *nāḍīparīkṣā* in two hands; in the *pāṇīpa* (lips), *kaṇṭha* (throat), *nāsa* (nose), *akṣi* (eyes), *karṇa* (ear), *jihvānta* (tip of the tongue), *meḍhraka* (back of the penis)³⁷.

The monographic texts and also the *saṃhitā* use *nāḍī* or *dhamanī* for the same pipe to examine and there are no differences between these two words and they are used as synonymous³⁸.

But, instead of in the *nāḍīśāstra* literature, in the classical *saṃhitā* literature³⁹ we don't find any suggestion that these words are synonymous, and “*dhamānāddhamanyaḥ sravaṇāt srotāmsi*

31. In Nā.pa., 4 *nāḍī*, instead of *dhamanī* as in *Śārṅgadharasaṃhitā*.

32. Or *Nandī*, the first of eighteen *Siddha*, to whom the tradition gives the elaboration of the *Siddha* medicine developed in the South of India and written in tamil. Cf. G. Mazars, “Les textes médicaux tamoul”, in *Proceedings* cit., p. 124.

33. Nā.pa., 5a.

34. *ibid.*, 8a.

35. Nā.vi., 38.

36. Nā.pa., 8-10; *Yo., atha roginām*, 11; Toḍarānanda, 6, 5. Cf. K. R. L. Gupta, *Science of Sphygmica or Sage Kaṇāda on Pulse*, 2nd ed, New Delhi, 1987, p. 7-8: “... The pulse examination must be done in this way, because *Dattatreya*, an authority in *āyurveda*, wrote in his *saṃhitā* that the head of *kūrma* in the female is upward, instead of is downward in the male”. See *infra* for the explication of indication of the *parīkṣā* on the right side in the male and on the left side in the female.

37. *Nāḍīdarpaṇa*, vv. 51-55 quoted in S. K. R. Rao, *Encyclopaedia of Indian Medicine*, Bangalore, 1985, vol. 3, pp. 130-131. Cf. G.J. Meulenbeld, *History* cit., vol. IIA, p. 425.

38. Nā.vi., 15: “*snāyur nāḍī vasā himsrā dhamanī dharā/ tantuko jivitaḥ ca sirāparyāvācīkā*”.

39. Su. Śā. IX, 1.

saraṇātsirāḥ”⁴⁰ seems suggest like a different specialization of these different structures: “*dhamanī- dhamanāt-* have the specialization of the pulsation; *srota- sravanāt* (from the transudation) and *sira* of the simple carry (*saraṇāt*). All these structures are included in the catalogue of visible and invisible spaces of the human body”⁴¹.

As we can see in many works on *nāḍīśāstra*⁴², the description of the anatomy of the system of *nāḍī* or *dhamanī* that comes from the trans-physiologic and mystic anatomy of the *yoga*⁴³ rather than from the classic āyurvedic physiologic-anatomy⁴⁴, may be can give some elements to the discussion on the origin of the method and on his contiguity with or his derivation from other cultural traditions or medical systems⁴⁵.

So the origin of the twenty four main *dhamani* is not from the *nabhi*, but from the twenty four channels presents, two in the head, two in the nail and five each of the hands and legs of the tortoise (*kūrma*)⁴⁶ who is placed in the navel region (*nabhideśa*), with his head on the left and his tail on the right of *nabhideśa*.

40. Ca. Sū. XXX, 12.

41. Ca.Vi. V, 9.

42. see vv.2-9 of *Nāḍīcakra*, manuscript 776 South Asian MS Collection, Wellcome Institute for the History of Medicine, London. Cf. also works on *nāḍīśāstra* in Meulenbeld, *History* cit., vol. IIA, pp. 421-433.

43. M. Eliade, *Tecniche dello Yoga*, Torino, 1984, p. 178-181. 1e éd., *Techniques du yoga*, Paris, 1948. S. Piano, *Enciclopedia dello Yoga*, Torino, 1996, p. 219.

44. Su. Śā. VII, 4: “all *sirā* (pipes) of human body are coming from the navel”, but in A.h. Śā. III, 18-19: “ten *sirā* are connected with the heart (*daśamālasirā hrsthāsthāḥ*)”.

45. On the problem of the origin of the *nāḍīparikṣā* and the links with other medical systems, like *Ūnāni* and *Siddha* Medicine or with pre-existing pulsology in tantric literature, see: Jolly, *op. cit.*, pp. 5, 22, 28; G.J. Meulenbeld, “The surveying of Sanskrit medical literature” in *Proceedings* cit., p. 45.

R.I. Verma, N.H. Keswani, “Ūnāni Medicine in Medieval India” in *The Science of Medicine and Physiological Concepts in Ancient and Medieval India*, ed. by N.H. Keswani, XXVI International Congress of Physiological Sciences, Department of Physiology, All-India Institute of Medical Science, New Delhi, 1974, pp. 127-141; R.I. Verma, “Indo-Arab relations in Medical Sciences”, in *History of Medicine in India*, ed. by P.V. Sharma, New Delhi, 1992, pp. 466-469. See A. Chiantaretto, *Il Nāḍīvijñāna* cit., pp. 25-31.

46. All the chapters on *nāḍīvijñāna* in the *saṃhitā* don’t refer to the *kūrma*. *Kūrma* in the yogic literature is one of five major types of *prāṇa* (*nāga*, *kūrma*, *krikara*, *devadātta*, *dhananjāya*). *Kūrma* is responsible for opening and winking of the eyelids. See O.P. Jaggi, *History of Science and Technology in India. Yogic and Tantric Medicine*, vol. V, New Delhi, 1973, p. 61.

This is the position of *kūrma* in the male, instead of in the female, where the *kūrma* has his head placed on the right and the tail on the left, so left arm and left leg are upward in the man, while in the fe-male are downward. The system of *dhamani* turns on the right in the man and on the left in the female and *nāḍīparikṣā* is made at the left wrist of the lady⁴⁷.

The act of nāḍīparikṣā

Both, the *vaidya* and the patient must be comfortably seated: the arm of the patient must be stretched out without feeling any pain in it; the hand of the patient must be free, nor to far nor to near to the physician, slightly flexed at the forearm.

The fingers of the hand of the patient must be little spread out⁴⁸.

The physician with his left hand slightly massages the hand of the patient and then holds the elbow of the patient with his left hand and then gently places the fore finger, the middle finger and the ring finger of his own right hand on the lower face of the pulse of the patient⁴⁹.

The fore finger, the first the physician should use, is placed at the distance of one finger from the root of the thumb.

He should press gently, but with right pressure, under the three fingers again and again for three times.

Every times the pressure on the wrist is released, the fingers of the physician come off from the pulse of the patient⁵⁰.

The time of nāḍīparikṣā

The doctor must check the pulse of the patient early morning (*prātaḥ*)⁵¹.

47. See Nā.pa., 11; Nā.vi., 8-9; Bhā.pra. 7, 11-12.

See reference on *Nāḍījñāprakāśikā*, Madras, 1880 quoted in Rao, *Encyclopaedia* cit., vol. III, pp. 138-144. Meulenbeld, *History* cit., vol. IIA, pp. 425-426.

48. Nā.vi., 11.

49. Nā.pa., 9-10.

50. *Yo., atha nāḍīparikṣā*, 3-6. Bhā.pra. 7, 11-12.

51. Nā.vi., 12.

The healthy man must get up from 3 a.m. to 6 a.m., to retain his own wellbeing. During this time (*brāhme muhūrte*) it is easier to obtain the right knowledge (*brāhma*), after he made his daily rules (*dinacaryā*)⁵². The *vaidya* must comfortably seat and he must check the pulse of the patient, who has done his day-to-day rules and he is comfortably seated⁵³.

The *nāḍī* characteristics change during the day: “In the early morning the *nāḍī* is of the right viscosity, at noon is hot, in the evening is quickly running – if the patient is without chronic diseases”. (*prātaḥ snigdhamayo*⁵⁴ *nāḍīmaddhyāhne puṣṇatānvitā*⁵⁵ / *sāyāhne dhāvamānā ca cirādrogavivarjitā* //)⁵⁶.

They also change with the conditions of the body and there are many situations that don't permit to do a right *nāḍīparīkṣā*, e.g. immediately after the meals, after the bath, immediately after the massage with oils (*abhiyanga*), immediately after to wake up⁵⁷.

The interpretation of nāḍīparīkṣā

“The pulse of the sick, the innocent and the senseless is like a lamp for (showing) the objects: it manifests the ills of the body, [each *doṣa*] separately, all together and in pair”⁵⁸.

How does interpret the *vaidya* the beating of *nāḍī* that he feels under his three fingers of his right hand?

52. They are both a matter of religion as well as of medicine (answering natures call, cleaning of body, of teeth, tongue, mouth, eyes, etc.). See Jolly, *Medicine* cit., p. 45; Rao, *Encyclopaedia* cit., vol. II, pp. 46-49.

53. A.h. Sū., 2,1.

54. *snigdha*, the right viscosity refers to the *nāḍī* in which *rasa* (or *prāṇa*) smoothly runs.

55. The increased warmth of the pulse is from the increased *pitta*.

56. The changes of the characters of the *nāḍī* are consensual to the changes of the three *doṣa*: *kapha* is higher in the morning – *nāḍī* smoothly runs; *pitta* is growing up in the middle of the day – *nāḍī* is hot; in the evening it is running and by night, when *vāta* is decreased, *nāḍī* is slowly running.

57. Nā.vi., 12-13; Ṭodaraṇanda 6, 1.Yo., *atha rogiṇām*, 9 adds: “...the pulse of these cannot be properly felt one who is hungry, thirsty and asleep”. Bhā.pra. 6, 3 adds: “... whose body is tired...”.

58. Nā. pa., 3; Yo., *atha rogiṇām*, 6; Śārṅga. I, 3,1; Bhā.pra. 6, 1.

*ādau ca vahate vāto madhye pittam tathaiva ca /
ante ca vahate śleṣmā nāḍikātrayalakṣaṇām //*⁵⁹

“Under the first finger we can appreciate *vāta*; under the middle finger we appreciate *pitta* and with the last finger we can appreciate *kapha*...”

*vātadhikā vāhenmadhye tvagre vahati pittalā /
ante ca vahati śleṣmā miśrite miśralakṣaṇā //*⁶⁰

“Excess of *vāta* we appreciate under the middle part of the forefinger; excess of *pitta* under the first part of middle finger; we appreciate the excess of *kapha* under the last part of ring finger...”

*ādau ca vahate pittam madhye śleṣmā tathaiva ca /
ānte prabhañjano jñeyaḥ sarvaśāstraviśāradaih //*⁶¹

“At the start of examination we appreciate *pitta*; in the middle time we appreciate *kapha* and at the end of examination we appreciate *vāta*...”

From *Nāḍivijñāna* of Kaṇāda vv. 16, 17, 18 we can explain the correct way to make the pulse examination linked with *doṣa* by identifying three elements:

- 1) the three fingers of the *vaidya*;
- 2) the localisation of the points of the palpation of the three kinds of pulse;
- 3) the time sequence (during the *parīkṣā*) of identification of different kinds of pulsations.

DOṢA	finger of <i>vaidya</i>	point of palpation	time sequence of palpation
<i>vāta</i>	<i>ādau</i> with forefinger	<i>ādau</i> in first point	<i>ānte</i> last
<i>pitta</i>	<i>madhye</i> with middle finger	<i>madhye</i> in middle point	<i>ādau</i> first
<i>kapha</i>	<i>ānte</i> with ring finger	<i>ānte</i> in last point	<i>madhye</i> intermediate

59. Nā.vi., 16; Nā. pa., 11-12.

60. Nā.vi., 17.

61. Nā.vi., 18.

The use of nāḍīparīkṣā. I

“The *nāḍī* reveals every thing concerning *vāta*, *pitta* and *kapha* operating separately, in pairs⁶² and jointly⁶³ and *nāḍī* permits to know *rasa* and blood and permits to understand the difference between curable and incurable disease”⁶⁴.

In the doctrine of Āyurveda⁶⁵ the disease is produced from imbalanced *doṣa* and the health is produced from balanced *doṣa* and *nāḍīparīkṣā*, that links up every pulsation of *nāḍī* with balanced or imbalanced *doṣa*, allows the physician to directly enter in the core of the system of physiopathology. Every kind of imbalanced *doṣa* happens, there is a typical change in *nāḍī*: then, by the characteristics of the *nāḍī* all process of physiology and physiopathology, prognosis and diagnosis can be detected step by step by *nāḍīparīkṣā*.

So we don't be amazed if the *nāḍīparīkṣā* from the Middle Age until modern Āyurveda became the most important and used diagnostic instrument in traditional indian medicine: it surely is the most flexible, direct and inclusive: “As a string in the musical instrument known as *vāta* expresses various notes of a music, similarly the *nāḍī* manifests all diseases”⁶⁶.

The language of nāḍīparīkṣā

To understand its language, we try to examine the two basic description of the *nāḍī*: the healthy *nāḍī* with balanced *doṣa* and the *nāḍī*, at the extreme opposite, with imbalanced *doṣa*. The description of healthy *nāḍī* is: “If the *nāḍī* is felt as in the right conditions, if beats pure and not flickering, if beats in the right position, then is a good

62. *dvandvam*: *vāta-kapha*; *vāta-pitta*; *pitta-kapha*. The combination of two *doṣa* is also defined *saṃsarga* (A.h. Sū. 1, 12).

63. *saṃnipāta*: *vāta-pitta-kapha*. Cf. A.h. Sū.1,12; Ca. Vi. VI, 10. G.J. Meulenbeld, *The Mādhavanidāna and its chief commentary, Chapters 1-10, Introduction, Translation and Notes*, Leiden, 1974, p. 165 suggests for *saṃnipāta* the translation: “close union of all three morbidic entities”).

64. Nā.vi., 10; Nā.pa., 13-17; Yo., *atha roḡṇām*, 12-13.

65. A.h. Sū. 1, 19.

66. Yo., *atha roḡṇām*, 3.

sign of all the *nāḍī*”⁶⁷ and: “The *nāḍī* of the healthy man is clearly felt like the movement of an earthworm. The *nāḍī* who runs steady and full is of a healthy man”⁶⁸.

The ill pulse is defined: “In the situations with imbalanced *vāta* the *nāḍī* is tortuous; it is tremolous in the imbalanced *pitta*; in the imbalanced *kapha* is steady. When the imbalanced *doṣa* are mixed, also the movement of the *nāḍī* is mixed”⁶⁹.

“The expert doctors say that in the excess of *vāta* the *nāḍī* is like the movement of the snake and of the leech; with *pitta* the movement is like a crow, sparrow and frog”⁷⁰.

“The movement of the *nāḍī* with excess of *kapha* is like a movement of the swan, the pigeon and the cock”⁷¹.

The description of the pulse is made by using two elements:

- 1) the different way of pulsation activity of the *nāḍī*, i.e. the movements of the *nāḍī*;
- 2) the qualities – the characteristics – of the *nāḍī*.

As regards the first point, the peculiarity of the movements of the *nāḍī* is always defined by one or more adjectives and often described by a similitude with the movement of one or more animals⁷².

As we can read in many works of *nāḍīśāstra*⁷³:

- *vāta nāḍī* is defined *vakrā* (tortuous) and is described as *sarpajalaukā*⁷⁴.

67. Nā.vi., 58 “*suyaktatā nirmalatvam svasthānasthitireva ca / acañcalyamamandatvam sarvāsām śubhalakṣaṇam //*”. This verse is in continuity with Nā.vi.16-20.

68. Nā.vi., 19: “*bhulatābhujagaprāyā svacchā svāstyamayo sirā / sukhitasya sthīrā jñeyā balavati matā //*”.

69. Nā.vi., 21: “*vātādvakragatā nāḍī capalā pittavāhinī / sthīrā śleṣmavati jñeyā miśrite miśrita bhavet //*”.

70. Nā.vi., 22: “*sarpajalaukāḍīgatim vadanti vibudhāḥ prabhañjanena nāḍīm / pittena kākalāvabhekāḍīgatim viduḥ sudhiyaḥ //*”.

71. Nā.vi., 23: “*rājahamsamayurāṇām pārāvatakapotayoḥ / kukkuṭasya gati dhatte dhamani kaphasambhrā //*”.

72. In the works on *nāḍīśāstra* the likeness with the movement of the animals and the fly of the birds are used only for the typology of the movement and of the fly, without any specification that allows a taxonomic identification of the animals.

73. Nā.vi., 21, 22, 23; Yo. 14,15; Nā.pa., 17; Śārṅga. I, 3, 2-3ab.

74. Nā.vi., 24, 31, 83, 111.

- *pitta nāḍī* is defined *capala* (flickering) and described as *kākalāv-abhekā*.
- *kapha nāḍī* is defined *sthirā* (steady) and described as *rājaham-samayurānām pārāvata kapotayoḥ kukkuṭas*.

These descriptions mean that there are used two kind of languages for the *nāḍīparīkṣā*: one is an abstract language and it refers to the cultural experience and in this context it refers to the range of shared meaning of the used adjectives (*vakra*, *capala*, *sthira*); the other one is a concrete language and, by the use of the similitude, refers to the common experience.

If Kaṇāda defines the *pitta nāḍī* as *capalā*, all his readers can understand what the author want to communicate about the *nāḍī* – but they must to share with the author the same range of specialized meanings of *capala* as “flickering”. But if the author says: “*pitta sarṇajalaukā (nāḍī)*”, the reader immediately transforms what the physician feels under his fingers with *nāḍīparīkṣā* into a visual representation of common experience by which he can immediately identify the character of the movement. The jumping frog is *pitta nāḍī*, what can make the reader able to immediately distinguish that one from *rājaham-samayurānām pārāvatakapotayoḥ* – that is *kapha nāḍī*, as the *sarṇaja* or *lauka* movement is the *vāta nāḍī*. Also if he don’t understand what is the meaning of *capala*, he now, because he is able to see, the movement of the frog or of the other animals. As regards the movement, all other possible characteristics come of course from the combination of these three movements⁷⁵.

As refers to the second point, in *nāḍīśāstra* the characters of the *nāḍī* are described – using an abstract language – also by the same quality (*guna*) of the substances⁷⁶:

guru heavy – *laghu* light⁷⁷

snigdha oleaginous – *rūkṣa* dry⁷⁸

75. This language changes by the time in the literature on *nāḍīśāstra*. We can suppose that the two kind of language are meaning also two kinds of teaching, from the textes and from the teacher to the pupil.

76. Ca. Śā. 6, 10. Of ten pairs of opposites, in Nā.vi and in Nā.pa. are used only seven pairs and not the last three pairs: *viśada* (clear)-*picchila* (mucilaginous); *ślakṣṇa* (smooth) – *khara* (harsh); *sāndra* (viscid) – *drava* (liquid).

77. Nā.vi., 103, 106, 110.

78. *ibid.*, 90.

śīta cold – *uṣṇa* hot⁷⁹
sthira solid – *sara* flowing⁸⁰
manda sluggish – *tīkṣṇa* sharp⁸¹
mṛdu soft – *kaṭhina* hard⁸²
sthūla gross – *sūkṣma* subtle⁸³
mandā slow – *druta*, *śigrhra* fast
sthirā firm – *capalā* not firm
balavatī strong – *śanta* not strong
sūkṣmā thin – *sthūlā* full
śītā, *uṣṇā* cold – *tapitā* hot
kaṭhinā hard – *komalā* weak

The use of *nāḍīparīkṣā*. II

According to the classical indian medicine that distinguish six *rasa* (taste) of nourishings⁸⁴ and according to the theory of influence of *rasa* on *vāta*, *pitta* and *kapha*⁸⁵, *nāḍīparīkṣā* indicates the process of balanced or imbalanced *doṣa*.

79. *ibid.*, 27, 74, 87, 91, 20, 79, 96, 99, 100.

80. *ibid.*, 19, 21, 27, 30, 31, 41, 65, 74, 76, 95, 91, 104.

81. *ibid.*, 30, 85, 87, 89, 98, 104.

82. *ibid.*, 65, 85, 88, 102.

83. *ibid.*, 85, 88, 27, 30, 57, 59, 85, 91.

84. *madhura* (sweet), *amla* (acid), *lavāṇa* (saline), *kaṭu* (pungent), *tikta* (bitter), *kaṣaya* (astringent) (Ca. Sū. XXVI, 8). The properties of *rasa* depend from the prevalence or the character of one or more of five *mahābhūta* (gross element): *ākāsa* (space or emptiness), *vāyu* (air), *agni* (fire), *āpaḥ* (water), *pṛthvī* (earth). Of many combinations of *rasa* to form the complex *rasa* of the different substances, there are fifty seven combinations and sixty three kinds of *rasa* that are useful for the therapy (Ca. Sū. XXVI, 15-24). The nourishings have the same *sāmānyaguṇa* (general properties) as all the other substances.

85. From Ca. Sū., XXVI, 41-43 it's possible to resume the action of *rasa* on *vāta*, *pitta* and *kapha*:

	(+ = increase - = decrease)		
<i>Rasa</i>	<i>vāta</i>	<i>pitta</i>	<i>kapha</i>
<i>madhura</i>	-	-	+
<i>amla</i>	-	+	+
<i>lavāṇa</i>	-	+	+
<i>kaṭu</i>	+	+	-
<i>tikta</i>	+	-	-
<i>kaṣaya</i>	+	-	-

Thus:

- with *rasa madhura* (sweet) *nāḍī* is *nāḍībarhigamanā* (like a peacock).
- With *amla* (acid) *nāḍī* is *plavagatiḥ* (like a frog).
- With *titka* (bitter), the *nāḍī* is *bhulatgatiḥ* like a worm.
- With *katu* (pungent), the *nāḍī* is *bhangasannibhā* (like a big black bee).
- With *kaṣāya* (astringent) the *nāḍī* is *kaṭhinā, mlāna*.
- With *lavaṇa* (saline) the *nāḍī* is *saralā, drutā* (no tortuous and speedy)⁸⁶.

Besides the identification of imbalanced *doṣa*, *nāḍīparikṣā* is used in the diagnosis of nosology of āyurvedic medicine. With special reference to *Nāḍīvijñāna* of Kaṇāda and to *Nāḍīparikṣā* of Rāvaṇa, we can identify the diagnosis of different types of *jvara*⁸⁷ (*vātajvara, pit-tajvara, kaphajvara, āgantujvara, bhūtajvara*)⁸⁸.

It is used in the diagnosis of the diseases of imbalanced *agni*⁸⁹, like *ajīrna* (disorders of the process of disintegration of food)⁹⁰; *grahaṇīroga* (chronic dysentery)⁹¹; *atisāra* (acute dysentery)⁹²; *viṣṭambhagulma* (obstruction, constipation)⁹³, *āgantuvraṇa* (wounds)⁹⁴, *nāḍīvraṇa* (ulcerative fistulas)⁹⁵.

As regard the prognosis, we can find two main applications of *nāḍīparikṣā*: as prognostic of favourable or unfavourable prognosis⁹⁶ and as *mṛtyukārajñāna* (the knowledge of the moment of the death).

86. Nā. vi., 64-67.

87. *Ibid.*, 80-83; 86-89; 90-91; 94-96; 98-99. Nā. pa. 53-54; 56-57.

88. For the classification of *jvara*, see Ca. Ni. III, 346.

89. cf. Ca. Sū. XII, 10 and Ca. Sū. XXVII, 342 and Ca. Ci. XV, 5 on the function of *agni* in the human body. See also Bh. Dash, *Concept of agni in Āyurvedic Medicine with special reference to Agnibala Parikṣā*, Varanasi, 1971, pp. 81-96.

90. Meulenbeld, *Māḍavanidāna* cit., p. 621.

91. Nā.vi., 107-108. Ca. Ci. XV, 57-58.

92. cf. Ca. Ci. XV, 57-58; Ca. Ci. XIX, 9.

93. Nā.vi., 113. Meulenbeld, *Māḍavanidāna* cit., p. 501 literally translates: “a constrained condition (of impurities)”. In Ca. Ci. XV, 45 *viṣṭambha* is caused by altered *agni*.

94. Nā.vi., 115. See Su. Ci. II, 21-22 on different type of *āgantuvraṇa*.

95. Nā.vi., 115. Jolly, *op. cit.*, p. 132.

96. Nā.vi., 30, 31, 32, 33, 34; Nā.pa., 71, 75, 77, 81, 89, 93, 94.

We can find this last section in all works on *nāḍīśāstra*, always shorter in *saṅhitā* than in monographic works⁹⁷.

With an unfavourable diagnosis, the characteristic of the pulse can suggest in how many days or how many *prahara*⁹⁸ the patient will die.

The *nāḍī* can indicate the death as in half *prahara* as in five or six days⁹⁹.

The important presence of *mṛtyukārajñāna* can be interpreted with the high practical value that it could have in the material and spiritual life of ancient India.

E. Ghosh¹⁰⁰ suggests that according to the Hindu customs, there is a ceremony of transporting the patient to the bank of the river Ganga and letting him die on the river side. As the dying man has sometimes to be brought from long distances, is very important that the death time should be known at least approximately.

*evam samkhyādibhedena nāḍī jñeyā vicakṣaṇaiḥ /
svarge api durlabhā vidhyā gopanīyā prayamataḥ //*¹⁰¹

97. see Meulenbeld, *History* cit., vol. IIA, pp. 421-433.

98. A division of time = 6 or 7 *nāḍīkāḥ*.

99. Nā.vi., 35-48; 59. Nā.pa., 70-73; 78-85; 87-88.

100. "The pulse in prognosis of diseases according to āyurvedic medicine", in *The Journal of Ayurveda*, 6 (1929-1930), pp. 334-340, 454-463; 7 (1930-1931), pp. 12-19, 50-60.

101. Nā.vi., 49: "Thus the skilled physicians can read the *nāḍī* with reference to the number and to their classification and this knowledge is difficult to find in heaven near to the Gods and it must be secretly preserved".