



# A Preliminary Survey of Modern Yoga Studies <sup>1</sup>

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## Abstract

Modern yoga has emerged as a transnational global phenomenon during the course of the twentieth century and from about 1975 onwards it has progressively become acculturated in many different developed or developing societies and milieus worldwide.<sup>2</sup> Eventually it started to be studied more critically, and various processes of enquiry and reflection were initiated. Perhaps not surprisingly, this trend has been especially noticeable in academic circles, where we see the earliest examples of research on acculturated forms of modern yoga in the 1990s,<sup>3</sup> with work picking up real momentum from about 2000.<sup>4</sup>

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<sup>1</sup> 'Preliminary' because it is expected that a more extended version of this article will be published in a volume edited by Jean Byrne and Mark Singleton (forthcoming).

<sup>2</sup> See the following historical studies: De Michelis 2004 about the genesis and overall development and acculturation of modern forms of yoga, Alter 2004 about themes relating to the modernisation of yoga in India, Singleton 2007 for an in-depth study of the seminal period from the end of the nineteenth century to 1945. Singleton's work is especially relevant in the present context as it traces the rise of the *āsana*-based, or postural, forms of modern yoga that are the most thoroughly acculturated nowadays.

<sup>3</sup> An important clarification: sociologists of religion, and occasionally others, have been discussing imported yoga phenomena since at least the 1970s and especially from the 1980s onwards (see, for example, Ellwood 1988 [1973] and Barker 1982). However, such studies dealt mainly with these movements *before* they started to become acculturated, and in fact such writings can usually be categorised as discussions of 'cults' or 'New Religious Movements'. Much of the interest they elicited was due to the fact that the groups researched were socially controversial and generally representative of marginal or alternative/countercultural positions and propositions. With reference to the typology of modern yoga presented in the present paper (see below), such studies concentrated almost exclusively on *denominational* types of modern yoga. While this material is very useful, especially from the point of view of historical reconstruction, fieldwork report and encyclopaedic referencing (see, for example, Melton 1986 and Melton et al. 1990, 1991), it is only contextually, not centrally relevant for the present study of modern yoga which, always with reference to the proposed typology, concentrates primarily on modern *psychosomatic* and *postural* forms of yoga. Writing similar types of survey for the other types of modern yoga, or indeed a comparative study of these different types of academic writing, would be a very worthwhile and most probably quite revealing exercise. However, material drawn from all of these different styles of enquiry will be presented in this paper, as needed, to contextualise the main subject (psychosomatic and postural forms of yoga) as fully as possible within the given size constraints.

<sup>4</sup> Earlier studies such as Christy 1932, while relevant to the cultural contexts out of which modern yoga grew, do not address the topic in depth. It could be argued that, historically, modern

**Keywords**

yoga, yoga studies, modern yoga, modern psychosomatic yoga, modern neo-Hindu yoga, modern postural yoga, modern meditational yoga, modern denominational yoga.

This article aims to give an overview of the current state of affairs with regard to academic studies of modern yoga. Before doing this, however, it will be useful by way of contextualisation to point out what is meant here by ‘modern yoga’, and to present a summary of the most significant historical, institutional and religio-philosophical trends which have contributed to its formation and development.

Methodologically, modern yoga has been studied in two main ways. Firstly, from the humanities and social sciences point of view: this approach discusses modern yoga’s history, social dynamics and religio-philosophical profile.<sup>5</sup> Secondly, from the point of view of the medical (both mainstream and complementary), and sports and fitness sciences: this approach has been primarily concerned with testing selected and adapted yogic practices in order to assess their therapeutic and healing potential, the ways in which they work, and also to find out how they may be used, more generally, for the cultivation of psycho-physical fitness, health and well-being. Activity in both areas has increased substantially over the last decade, and is expected to grow even more in future.

**Modern yoga defined**

For the purposes of this paper, the expression ‘modern yoga’ will be used to signify those disciplines and schools which are, to a greater or lesser extent,<sup>6</sup> rooted in South Asian cultural contexts, and which more specifically draw inspiration from certain philosophies, teachings and practices of Hinduism.<sup>7</sup>

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yoga was still too new or too marginal a phenomenon to call for much objective reflection before the 1970s.

<sup>5</sup> Including especially expertise in the fields of anthropology, indology, philosophy, religious studies and sociology.

<sup>6</sup> How far this is the case varies from school to school, and on levels of assimilation into local cultures, and of syncretism with non-South Asian philosophies and ideas.

<sup>7</sup> Buddhism and Jainism, however, are very important with regard to both the pre-modern and the modern history of yoga, but while elements of other religions are also to be found (the founder of the 3HO movement, the main proponent of modern Kundalini Yoga, for example, was a Sikh, and this has influenced various aspects of his school; and Sahaja Yoga, whose founder was brought up as a Christian, contains elements drawn from Christianity, see Coney 1999, pp. 24, 31, 93, 103), it may safely be said that most of what is called ‘yoga’ in everyday English stems broadly from a Hindu background (or Neo-Hindu and New Age to be more precise; see De Michelis 2004).

These teachings and practices, by virtue of export, syncretic assimilation and subsequent acculturation processes, have by now become an integral part of (primarily) urban cultures worldwide,<sup>8</sup> and are usually represented, disseminated and discussed primarily (though not exclusively) by way of the English language.<sup>9</sup>

At one level, in fact, ‘modern yoga’ here simply refers to what an average English speaker would understand when the word ‘yoga’ (by now a thoroughly assimilated loanword in English) is mentioned: i.e. the performance of yoga poses (*āsana*) within a classroom format, or the same type of practice performed at home with the help of books, audiovisual tools, or on the basis of one’s memory and knowledge of the subject.

It is worth noting by way of comparison that the reaction is likely to be different if the word is mentioned to a native, or adept, speaker of Indic languages. The Indic semantic range of this word, in fact, is quite different from its English counterpart. It is generally wider, far more varied and layered than in English, and may include (depending on speaker and context) concepts and practices that average English speakers would designate by other names: meditative and contemplative endeavours; prayer; ritual and devotional practices of various kind; selfless ethical behaviour; secret esoteric techniques, etc. This alerts us not only to a different linguistic usage but also, and more importantly, to radically different *conceptual* and *performative* ones: the exploration of such differences underlies some aspects of the present discussion and should be borne in mind when carrying out research on related or overlapping topics.<sup>10</sup>

### **Brief history of modern yoga**

The roots of modern yoga lie in both South Asian and western forms of culture, belief and imagination.<sup>11</sup> Substantial numbers of those practising modern

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<sup>8</sup> The implication is that, generally speaking, these cultures are technologically developed, cosmopolitan, and culturally postmodern.

<sup>9</sup> While European, Asian, South American and other languages are also used, there are very often strong links with English-speaking cultures by way of personal interactions, books, teachings, travels, yoga and retreat centres, etc. on the part of leaders, pioneers and key representatives. This is also related to the fact that English usage has been and still is very prominent in South Asia.

<sup>10</sup> A ‘classroom type’ example of what is meant here would be comparing and contrasting contemporary ideas of ‘tantric yoga’ with the ways in which ‘*the tantric body*’ (see Flood 2006) is understood within Indic traditions. About this comparison, see also Chapter 15 in Samuel 2005.

<sup>11</sup> For sources on the history of modern yoga, see note 2 and the next section.

yoga nowadays are non-Asians, though many teachers of the early wave (first half of the twentieth century) were Asian. The latter have been followed by a constantly growing number of ‘indigenous’, often ethnic western, teachers: we can now be one, two or even three ‘generations’ down the line of spiritual pupillage from the initial Asian guru.<sup>12</sup> How did this happen? How did these schools of practice emerge and proliferate in Europe, the Americas, Australia and in the white enclaves of places such as South Africa, Hong Kong, or again in many other urban communities worldwide?<sup>13</sup> A few historical remarks will perhaps help here.

Apart from very early and largely forgotten contacts in antiquity,<sup>14</sup> Indic forms of yoga and the religio-philosophical substratum from which they sprang were hardly known in the English-speaking world a couple of centuries ago. Indeed, modern ‘-isms’ such as ‘Hinduism’ and ‘Buddhism’ were not at all the commonplace concepts they are today. In fact these two traditions were often confused, sometimes out of ignorance, other times mirroring overlaps and interactions that are part of their history as well as of the situation ‘on the ground’.<sup>15</sup>

This started to change over the period between *ca.* 1750 and 1850 when we find that, with the colonial presence and the expansion of western powers and influence into South Asia, these ‘Others’ started to be studied and became, both directly and indirectly, relatively better known. We see the growth of a strong academic interest and, eventually, the creation of ‘Oriental Studies’ as a subject of enquiry and reflection.<sup>16</sup>

During the second half of the nineteenth century, however, curiosity about the East took a new turn: these religions, and some of the practices they fostered—especially some forms of yoga, meditation and related teachings—started to attract more and more interest not only as subjects of academic or

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<sup>12</sup> Details and lineages of many of these teachers can be found in Rawlinson 1997.

<sup>13</sup> For example, modern postural yoga (see section on ‘Types of modern yoga’ for label) is becoming established in urban centres in Iran, where it is not perceived as a form of religion or spirituality, but as a way to cultivate fitness (personal communication). It is also spreading to other urban centres in Africa, apart from South Africa, though here operations are quite small scale, and again primarily maintained and used by the white communities (personal communications). Some interesting work has also been done on syncretic forms combining yoga and Islam in Morocco (Voix 2006).

<sup>14</sup> On these contacts see, for example, Sedlar 1980.

<sup>15</sup> Most notably in places like Nepal, Sri Lanka and Tibet, but coexistence, overlaps and interactions were much more common throughout South Asia up the end of the first millennium CE. Regarding early modern explorations of these religions see, for example, Almond 1988 and Sweetman 2003.

<sup>16</sup> Schwab 1984, Halbfass 1988.

socio-political study,<sup>17</sup> but also as possible forms of belief and practice to be taken up by westerners. Three main elements contributed to these developments: the post-Enlightenment crisis of Christianity, well represented by the diffusion of Unitarianism and by the religious quest of American Transcendentalists;<sup>18</sup> the emergence of strong esoteric currents, chiefly exemplified by the foundation (in 1875) and success of the Theosophical Society;<sup>19</sup> and the fast dissemination of knowledge about these subjects fostered by the diffusion of printing and literacy, and matched by the growing popularity of so called ‘self-help’ culture.<sup>20</sup>

Swami Vivekananda (1863–1902) played a key role in the formation of modern yoga during the latter part of his life<sup>21</sup> as he brought together the South Asian and western esoteric trends which formed the foundations on which the various styles of transnational modern yoga could develop. These early teachings, along with other seminal components of modern yoga such as nationalistic strivings and the influence of various gymnastic traditions, were then appropriated, carried forward and developed by numerous individuals East and West.<sup>22</sup> In due course, recognisable trends emerged and properly institutionalised schools of thought and practice were formed around them.

As Mark Singleton has shown, today’s modern postural yoga (see below) came into being during the first half of the nineteenth century: the current ‘postural canon’ became established as ‘*hatha* yoga came to be recast as a process of health and fitness training underpinned by the moral and spiritual principles of neo-Vedāntic Hinduism’.<sup>23</sup> Finally, in the second half of the twentieth century, the modern worldwide expansion of yoga started in earnest, progressing from popularisation (1950s to mid-1970s), to institutional consolidation (mid-1970s to late 1980s), to acculturation (late 1980s to date).<sup>24</sup>

## Types of modern yoga

Thus nowadays we can observe a number of different types of yoga practice. If analysed on the basis of the specific practices emphasised, and how these are

<sup>17</sup> Including missionary and economic interests.

<sup>18</sup> Christy 1932, Versluis 1993.

<sup>19</sup> Godwin 1994.

<sup>20</sup> Anker 1999a and b.

<sup>21</sup> From his first visit to the USA in 1893 through to his death in 1902, see: De Michelis 2004, ch. 3.

<sup>22</sup> Sjoman 1999; Singleton 2007.

<sup>23</sup> Singleton 2007, Initial summary page, not numbered.

<sup>24</sup> For further details of this chronology, see chapter 6 in De Michelis 2004.

used both within the schools and in terms of wider social dynamics, we will be able to distinguish five key types:

The early modern *psychosomatic* yoga of Vivekananda, enshrined in his 1896 *Rāja-Yoga*.<sup>25</sup> The bedrock of this type is each school's interpretation of Patañjali's *aṣṭāṅgayoga*,<sup>26</sup> to which other elements from (neo-)Hindu or western esoteric traditions are added.

The *neo-Hindu* style of modern yoga, the key ideological themes of which were already present in South Asian culture towards the end of the nineteenth century, and which came to full flower from the 1920s onwards. This type of yoga was especially receptive to influences from the martial and gymnastic traditions of both indigenous and western origins. It often encompasses irenic or more confrontational notions of Hindu revivalism, nationalism and/or supremacy.<sup>27</sup>

*Postural* and *meditational* forms of modern yoga include elements of the two former forms, and started to develop from the 1920s onwards. All in all, however, modern postural yoga schools put a much stronger emphasis on postural practice, and have contributed the most to developing and codifying relatively advanced and sophisticated canons of postural theory and practice.<sup>28</sup> Their religio-philosophical teachings, however, are relatively unfocused and usually polyvalent and therefore mostly compatible with transnational trends tending towards secularisation and/or acculturation.<sup>29</sup> By and large, when people talk about 'yoga' in everyday English, this is the type of practice that is intended.<sup>30</sup>

<sup>25</sup> Later examples: Swami Sivananda of Rishikesh and his many pupils who established yoga promoting organisations worldwide; the Himalayan Institute of Swami Rama; Kripalu Yoga.

<sup>26</sup> 'The yoga of the eight limbs', see *Yoga Sūtras* II.28 to III.8, comprising *yama* (restraints), *niyama* (observances), *āsana* (yogic posture), *prāṇāyāma* (regulation of breath/energy), *pratyāhāra* (sense withdrawal), *dhāraṇā* (concentration), *dhyāna* (meditation), and *samādhi* (meditative absorption).

<sup>27</sup> See Singleton 2007, pp. 86–93 and *passim*, who traces the early developments of these schools. Contemporary examples are the Baratiya Yog Sansthan discussed by Alter 1997 and, most likely, the contemporary 'yoga phenomenon' of Swami Ramdev, see: [www.divyayoga.com](http://www.divyayoga.com) (informed guess; no independent data found on this movement so far). The Santa Cruz (Mumbai) Yoga Institute and the Kaivalyadhama Institute at Lonavla (Maharashtra) should probably be classified as combinations of these first two types.

<sup>28</sup> Sjoman 1999; Singleton 2007.

<sup>29</sup> De Michelis 2004, Part II.

<sup>30</sup> Influential and widely know postural schools are those established by some of Tirumalai Krishnamacharya's (1888–1989) pupils: B. K. S. Iyengar's Iyengar Yoga, Pattabhi Jois' Ashtanga Yoga and the yoga taught by T. K. V. Desikachar (formerly Viniyoga), though the latter could also be seen to be veering towards the psychosomatic mode. Examples of other schools influential in the postural domain, which is expanding very rapidly at the moment, are the more postural aspects of Swami Vishnudevananda's Sivananda Yoga (in other ways this organisation may be seen as representing modern psychosomatic yoga tendencies) and Bikram's Yoga.

The situation is more complex with regard to meditational yoga, which also started to develop from the 1920s onwards.<sup>31</sup> At the level of practice, and often of entry, these schools focus primarily on their own specific set of meditational practice(s). Socio-philosophically, they tend to be rather self-contained, as opposed to being part of a wider, transnational yoga or 'spiritual' community as psychosomatic or postural schools tend to be, or closely embedded in modern forms of Hinduism as neo-Hindu yoga schools. They are often headed by charismatic founders and/or leaders whose authority pervades the institution, sometimes in capillary fashion. Their teachings seem to have a tendency to develop towards relatively elaborate and idiosyncratic forms of belief, which in turn stimulate the creation of specific practices, and/or of specific interpretations of practice. These developmental trajectories seem to bring them progressively closer to *denominational* forms of yoga:<sup>32</sup> i.e. groups that promote their own forms of (usually meditational) yoga, but seemingly as a means to propagate, affirm or reinforce very distinctive and sometimes controversial worldviews, belief systems and lifestyles, rather than to connect with wider societal, ideological or religious webs of meaning.<sup>33</sup> It should be noted that, in contrast to the others, denominational schools of modern yoga only started to appear from the 1950s onwards, and became really noticeable on the religious scene from the 1960s, as many Indian charismatic teachers were enthusiastically adopted (and materially supported) by the then emerging counterculture.<sup>34</sup> However, more work needs to be done in this area, and the ideas expressed in this paragraph should only be regarded as tentative remarks.<sup>35</sup>

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<sup>31</sup> Perhaps the most famous early example is the Self Realization Fellowship of Swami Yogananda. A later example are the Brahma Kumaris, see Walliss 2002.

<sup>32</sup> The TM (Transcendental Meditation) movement of Maharishi Mahesh Yogi is a likely example of this dynamic.

<sup>33</sup> See, for example, Rajneesh/Osho, Sahaja Yoga (Coney 1999), and earlier forms of ISKCON.

<sup>34</sup> Such as early forms of Transcendental Meditation (TM) and Shri Chinmoy's meditation school. About the general happenings of the time see, for example, Roszak 1969 and Cox 1977.

<sup>35</sup> The above typological discussion is a provisionally revised and updated version of the one published in De Michelis 2004, p. 188, and work on it is ongoing. This is partly because the picture itself is continuously changing, and specific schools may and do drift from one type to the other over time. One of these is ISKCON which, after a number of scandals and much soul-searching, has now been working for years towards attaining a more socially integrated (neo-)Hindu profile (for a variety of perspectives, see Bryant and Ekstrand 2004). In this context, it is interesting to note the recent creation of a new type of 'ISKCON postural yoga', Atma Yoga, see: [www.yogamandir.com](http://www.yogamandir.com).

### **Modern yoga studies: Humanities and Social Sciences**

The study of modern yoga is an emerging academic discipline which started to develop in the 1990s. It is only from the late 1980s in fact that modern yoga stopped being regarded as exotic, ‘alternative’ and somewhat marginal, to become part of normal everyday culture in the English-speaking world. To start a process of reflection and stock-taking at this point was perhaps natural: one could maybe describe this as the ‘coming of age’ of modern yoga, when seen from the perspective of its modern adaptations, and of its export and ‘transplant’ to countries outside Asia.

Early studies working in this direction were by Fuchs, who looked at the spread of modern yoga with a very specific focus on Germany;<sup>36</sup> De Michelis, with a preliminary attempt at a systematic survey of modern yoga history, and discussion of some differences amongst postural styles of yoga;<sup>37</sup> Sjoman, who started a reconstruction of modern postural yoga’s history, began to problematise some widespread ‘yoga myths’, and attempted to bring the South Asian point of view more fully into the discussion;<sup>38</sup> Alter, who looked at an influential school of Neo-Hindu yoga<sup>39</sup> and importantly, and in some ways similarly to Sjoman, started to work ‘toward a deconstruction of yoga’s significance as a monolithic philosophical system’;<sup>40</sup> and Baier, who produced a book that really deserves to be translated into English as it provides an excellent survey of early and modern yoga themes and trends in relation to contacts with the West—although it does not attempt to actually define and discuss modern yoga as such.<sup>41</sup>

At this point, the stage was set and more substantial studies started to emerge. Ceccomori’s 2001 work gives us a detailed overview of major and minor influences in developments of modern yoga in France. The 2004 book by Alter examines the role of ‘the body between science and philosophy’ (its subtitle) from an anthropologico-theoretical angle, using several examples from Indian modern yoga milieus as starting points for its discussions. De Michelis 2004 attempts a reconstruction of the history of modern yoga from its early (ideological) beginnings around the middle of the eighteenth century. The book uses Iyengar Yoga as its main case study to show one of the ways in which the theoretical underpinnings of modern yoga are translated into prac-

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<sup>36</sup> Fuchs 1990.

<sup>37</sup> De Michelis 1995.

<sup>38</sup> Sjoman 1999.

<sup>39</sup> The Bharatiya Yog Sansthan, est. 1967.

<sup>40</sup> Alter 1997, p. 309.

<sup>41</sup> Baier 1998.

tice. Singleton's 2007 work completes and refines this picture by carrying out an in-depth analysis of the period from the end of the nineteenth century to about 1945, and traces the rise of postural yoga through a number of further influences ranging from the legacy of South Asian warrior ascetics, to the rise of Indian nationalism, to the combined influence of gymnastic disciplines East and West. In a 2005 publication, the same author shows the complex historical relations between yoga's relaxation techniques and western forms of 'modern relaxationism', and this important theme is also included in the 2007 discussion.

Newcombe 2005 also takes up the influential Iyengar Yoga school in order to analyse the beliefs patterns of its participants. While her sample is relatively small (188 individuals), the quantitative (with elements of qualitative) research yields interesting results, which are clearly described by the author. Not only that, but the data presented can provide food for thought also beyond the author's comments, depending on the interests of the reader. Strauss 2005, on the other hand, looks at the tradition of yoga schools established by Sivananda of Rishikesh and his many disciples. The author describes these 'yoga communities' and the existential motivations that keep them alive, mirroring the countercultural premises of New Age religion that underlie the philosophical constructs of many transnational modern yoga schools. Participants in these traditions, whether Indian or western, are often looking for alternatives to the environment and culture in which they were born, and find a sense of community and shared ideals in the ashrams and yoga centres that can be found scattered all over the world. Earlier on, Kakar (1983) had already commented on similar social dynamics by observing that becoming a member of such groups 'offer[s] substitutes for community and professional associations', and while he was referring to Sahaja Yoga in the passage just quoted, the same could surely be said, at least to some extent, in the case of the most committed modern yoga practitioner, whatever school they choose to follow.<sup>42</sup>

Also highly relevant for modern yoga studies are a number of existing and forthcoming collections of texts, such as the present issue of *Asian Medicine*, or the special issue on yoga of the *Journal of Vaisnava Studies*.<sup>43</sup> This collection contains several interesting articles on both pre-modern and modern/contemporary forms of yoga. Other books which should prove useful are Connolly's *Student's Guide*, due out sometime in 2007, and a forthcoming edited collection of contributions on contemporary yoga, edited by Byrne and Singleton.

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<sup>42</sup> Kakar 1983, p. 214.

<sup>43</sup> Rosen 2005.

Finally, mention should be made of the wider indological and religious studies fields, both of which are likely to be relevant for people doing research on modern yoga. Fortunately, many new studies have emerged in areas which are of relevance in the context of this discussion, one important example being tantric studies, including *haṭhayoga*. A full review of these materials is beyond the scope of this article, but the interested researcher will gain from looking at work by David Gordon White (tantra, *haṭhayoga*),<sup>44</sup> Gavin Flood,<sup>45</sup> Alexis Sanderson,<sup>46</sup> and Somadeva Vasudeva (tantra, tantric Śaivism),<sup>47</sup> James Mallinson (*haṭhayoga*),<sup>48</sup> Olga Serbaeva (*yoginīs* in tantric Śaivism),<sup>49</sup> Bouiller and Tarabout (the body in the Hindu tradition),<sup>50</sup> and a number of other scholars who have been working in these and related areas, such as Edwin Bryant, who will soon publish a new translation and commentary of the *Yoga Sūtras* based on classical sources.<sup>51</sup> Going to the authors listed will provide many more bibliographical references. On the religious studies and history of ideas side, researchers would gain from looking at Hugh Urban and Geoffrey Samuel on the modernisation of tantra,<sup>52</sup> at Hanegraaff's work on the New Age,<sup>53</sup> and at contemporary discussions on esotericism, modern and contemporary Indian history, neo-Hindu and new religious movements (NRMs),<sup>54</sup> and the transnational social dynamics of modern religious movements as this will help them to understand better the wider context of modern yoga studies.<sup>55</sup>

### Modern yoga studies: Biomedical Sciences

When we turn to studies within the 'hard' scientific domain we find, perhaps unsurprisingly, that almost all of the work takes place in the health sciences, including areas of (bio)medical research, clinical applications, and sports/fitness disciplines. In this sense it is indeed correct to speak, as Alter does, of

<sup>44</sup> White 2000, 2003.

<sup>45</sup> His 2006 book can be especially useful as an introductory/methodological study.

<sup>46</sup> Sanderson 2001.

<sup>47</sup> Vasudeva 2004.

<sup>48</sup> Mallinson 2004, 2006, 2007.

<sup>49</sup> Serbaeva 2006a and b.

<sup>50</sup> Bouiller and Tarabout 2002.

<sup>51</sup> Bryant, forthcoming, 2007.

<sup>52</sup> Urban 2003 and Samuel 2005 respectively. Regarding the latter, see especially Chapter 15.

<sup>53</sup> Hanegraaff 1996 is the most comprehensive, but the same author has also written many shorter articles and summaries on the topic.

<sup>54</sup> Goldman 2006 could be a good point to start for the latter.

<sup>55</sup> A possible starting place, about the USA but more generally applicable to modern yoga studies, is Albanese 2007, especially Chapter 6.

‘modern medical yoga’.<sup>56</sup> It is very likely that the ambiguities of ‘magic, alchemy and sex’, which Alter discusses in the same article, will always remain part of yoga. It is also true, however, that over the last decade of huge expansion, ‘yoga is rapidly being embraced by many Americans as an alternative or additional way to increase strength, endurance and body tone’ in altogether secular fashion.<sup>57</sup>

As part of this acculturation process, the trend towards validating various kinds of yogic practice in scientific, empirical fashion has been growing exponentially. What researchers seek to validate are useful applications which are proven to work. Results are only partial so far, and while the areas to investigate and methodological hurdles to overcome are many, it is a fact that progress is swift, as Khalsa (2004) points out in his ‘bibliometric analysis of published research studies’:

Although yoga is historically a spiritual discipline, it has also been used clinically as a therapeutic intervention. A bibliometric analysis on the biomedical journal literature involving research on the clinical application of yoga has revealed an increase in publication frequency over the past 3 decades with a substantial and growing use of randomized controlled trials. Types of medical conditions have included psychopathological (e.g. depression, anxiety), cardiovascular (e.g. hypertension, heart disease), respiratory (e.g. asthma), diabetes and a variety of others. A majority of this research has been conducted by Indian investigators and published in Indian journals, particularly yoga speciality journals, although recent trends indicate increasing contributions from investigators in the U.S. and England. Yoga therapy is a relatively novel and emerging clinical discipline within the broad category of mind-body medicine, whose growth is consistent with the burgeoning popularity of yoga in the West and the increasing worldwide use of alternative medicine.<sup>58</sup>

The beginnings of the history of modern yoga research are well described in Murphy and Donovan, who show how these developments led to the beginnings of Mind-Body medicine.<sup>59</sup> The latter is a relatively new area of medical

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<sup>56</sup> Alter 2005, p. 133.

<sup>57</sup> LeWine 2006.

<sup>58</sup> Similarly, a PubMed search carried out by the author in 2007 showed only one study mentioning ‘yoga’ between 1950 and 1960 (Vakil 1950, about the live burial of a yogin). But from 1961 onward there is a progressive growth of data: we find as many articles between 1961 and 1997 as between 1998 and end 2006, i.e. as many in the last nine years as in the previous 37 years.

<sup>59</sup> 1st ed. 1988, 2nd ed. 1997, also available online (the method used here) at <http://www.noetic.org/research/medbiblio>. Much of the following is summarised from this work, which is primarily about meditation research, but there are of course overlaps with yoga research, especially so in the early days. Writing a similar history of research into the more directly somatic aspects of yoga practice would be a very worthwhile project.

specialisation and research that effectively bridges the gap between mainstream and complementary medicine and which, essentially, arose as a response to interest in oriental contemplative disciplines, and their observed results. To start with, most of this research concerned disciplines practised in South Asia and Japan.

The ‘medicalisation’ of yoga, and its dialogue with science, started in the 1920s in India, primarily with the work of Sri Yogendra of the Yoga Institute (established in 1918 in Mumbai) and Swami Kuvalayananda of Kaivalyadhama (established in 1921 in Lonavla, a hill station near Mumbai). The latter institution carried out laboratory research, and its findings were published in the journal *Yoga Mimamsa*. Early pioneers in this field (some of whom visited Kaivalyadhama) were Behanan,<sup>60</sup> Brosse,<sup>61</sup> and Bagchi, Wenger and Anand.<sup>62</sup> The latter were an international research team (the first two were based in USA universities, while Anand was chairman of the Department of Physiology at the All-India Institute of Medical Sciences in Delhi), and they substantially expanded the instrumented study of yogic functioning, producing landmark studies in the late 1950s. These were reported in American scientific journals, and as a result yoga and meditation studies started to be taken more seriously.

These and other pioneering studies opened the way for further work in this direction, and eventually the ‘relaxation’ thread of research emerged as foundational in the field. Relaxation research, studying states achieved by withdrawing attention from external stimuli, is especially interesting as it provides a common departure point for most yoga and meditation techniques. It is also proven to be directly relevant to the concerns of psychosomatic medicine, i.e. the branch of modern medicine pioneered between the 1920s and the 1950s by researchers like Walter Cannon (who elaborated the concept of ‘fight and flight’), Hans Selye (‘stress’) and Henry Beecher (‘placebo effect’).<sup>63</sup> In the 1960s, Harvard cardiologist Herbert Benson proved that simple relaxation techniques could effectively reverse the ‘fight or flight’ reaction discovered by Cannon.<sup>64</sup>

In 1975, Benson published the best-selling trade book *The Relaxation Response* and stress and relaxation became household words. Benson and his

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<sup>60</sup> Behanan 1937.

<sup>61</sup> Brosse 1946.

<sup>62</sup> See, for example, Bagchi and Wenger 1957, Wenger and Bagchi 1961, Wenger et al. 1961.

<sup>63</sup> See Gilbert 2003, pp. 565–6.

<sup>64</sup> See Gilbert 2003, p. 566.

collaborators gained widespread recognition, and in 1988 proceeded to establish the Mind-Body Medical Institute, which quickly became world leader in the study, advancement, and clinical practice of Mind-Body Medicine.<sup>65</sup> As reported in the MBMI website, Dr Benson

views medicine as a three-legged stool: pharmaceuticals are the first leg, surgery and procedures the second. Mind/body interactions—the relaxation response, nutrition, exercise and spirituality—is the third, ‘self-care’ leg. Since roughly 60 to 90% of doctor visits are for conditions related to stress, the mind/body or self-care approach is a vital component of effective health care.<sup>66</sup>

Such remarks give us a measure of the importance and therapeutic potential of Mind-Body Medicine, of which modern forms of yoga therapy are part. In more recent times, the Benson team has gone deeper into studies of meditation, the therapeutic applications of which are somewhat different from the more fully somatic and musculo-skeletal ones of (postural) yoga therapy. But others have continued to work in this area, and with reference to this it may be worth reviewing briefly the exemplary work of another cardiologist, Dr Dean Ornish, and some recent literature on the general progress of yoga therapy research.

Dean Ornish was the first to show that reversal (regression) of coronary arteriosclerosis is possible by adhering to a comprehensive lifestyle programme. In the context of the present discussion, two facts are especially important about this story. First, that such a reversal was thought to be impossible, whatever the therapy, before Ornish proved the contrary; second, that at this early stage his work was largely inspired by the yoga-related ideas he had imbibed as a young man from the modern yogi Swami Satchidananda.<sup>67</sup>

The results of Dr Ornish’s research were reported after one and five years.<sup>68</sup> The programme, now adopted and recognised worldwide under the name ‘Lifestyle Program’, consists of a four-component intervention, as follows:

1. moderate exercise
2. stress management
3. low fat plant-based diet
4. regular group support

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<sup>65</sup> See: <http://www.mbmi.org>.

<sup>66</sup> History/Mission page, accessed 10 February 2007.

<sup>67</sup> Disciple of Swami Sivananda of Rishikesh, he eventually moved to the USA where he established his system of Integral Yoga and the Satchidananda Ashram in Yogaville, Virginia, see: <http://swamisatchidananda.org>.

<sup>68</sup> Respectively 1990a and b, and 1998.

Ornish was able to demonstrate that risk factors could be lowered significantly even without lipid lowering medication, that a reversal of coronary sclerosis is possible after one and after five years, that clinical symptoms can be reduced markedly, that the individual well-being is improved demonstrably, that money can be saved for the health care system and that human suffering can be prevented. Participants in the control group were treated according to the conventional prescriptions and recommendations by their family physicians and cardiologists. They all showed worsening of their symptoms and parameters or no changes at all.<sup>69</sup>

One way to look at the four components of the Lifestyle Program is that all four mirror very closely key activities and standard recommendations common in modern psychosomatic and postural yoga communities. When Ornish was designing his experiments, however, he was asked by his mentors to refrain from mentioning yoga explicitly as it was deemed that that would have considerably decreased his chances of securing funds and being taken seriously. By the early 1990s, Ornish was acknowledging yoga influences widely and freely. Now such acknowledgements are in a way superfluous, and no longer very apparent in his Institute's website or elsewhere, arguably because yoga, or rather the perceived healthiness of a 'yogic lifestyle', has become so commonplace and uncontroversial that no reiteration is needed.<sup>70</sup>

As for the more directly postural aspects of yoga therapy and fitness, there have been significant changes over the last ten years.<sup>71</sup> Earlier attempts at surveying the literature did not come up with much material, and a lot that did come up appeared fairly unsystematic and unrelated to areas of mainstream research. The situation is very different a decade or so later. As suggested by the quotation at the beginning of this section, there is far more material, more accumulated data to build upon, a more sophisticated vocabulary, and a far greater awareness about different styles of yoga and what they entail, and about methodological issues, related difficulties and about how these may be overcome. Most noticeable is a tangible interest in, and enthusiasm for, what yoga therapy may be able to contribute to the medical, complementary, and more specifically Mind-Body Medicine fields. In some cases, there also seems to be an interesting convergence with meditation studies, making the overlap

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<sup>69</sup> This summary of Dr Ornish's work is in part based on a conference presentation by Dr Otto Brusis, MD, with thanks. More information on Dr Ornish and his Preventive Medicine Research Institute at the University of California can be found at: <http://www.pMRI.org>.

<sup>70</sup> Ongoing field data based mainly on press and popular literature perusal.

<sup>71</sup> I.e. to do with *āsana* inspired musculo-skeletal work, or special practices such as postural variations and somatic (self-)manipulations through, for example, inversions and props, or with distinctive techniques of breath work, be it *prāṇāyāma*, *mudrās* or *bandhas*.

with Mind-Body Medicine more significant and potentially more productive. At the end of his review article, for example, New York Continuum Heart Institute researcher Jayasinghe comments:

Mind-body exercise such as yoga couples sustained muscular activity with internally directed focus, producing a temporary self-contemplative mental state. Exercises such as yoga have shown significant mental and physical value. It can be postulated that the practice of yoga triggers neurohormonal mechanisms that bring about health benefits. This is evidenced by the suppression of sympathetic activity associated with yoga practice...<sup>72</sup>

From a more quantitative point of view, it is interesting to note that the results of a national (USA) survey on the use of Mind-Body medical therapies carried out in 1997–8 showed that meditation and yoga were amongst the three ‘most commonly used techniques’.<sup>73</sup>

While there seems to be much interest in yoga therapy, this form of treatment is not regarded as a panacea.<sup>74</sup> Indeed whatever evidence has been put together to date shows potential effectiveness only in certain areas: low back pain and musculo-skeletal complaints,<sup>75</sup> cardiac health,<sup>76</sup> stress and anxiety related conditions,<sup>77</sup> asthma,<sup>78</sup> and palliative cancer care,<sup>79</sup> seem to be amongst the ones more actively researched at the present time. Article contents notwithstanding, however, there is a refrain that is heard frequently, as part of virtually all conclusions: results are very promising but as yet not sufficiently significant; more research is urgently needed.<sup>80</sup> Wolsko et al.’s survey, furthermore, found

<sup>72</sup> Jayasinghe 2004, Conclusion.

<sup>73</sup> Wolsko et al. 2004, p. 43. The third one was ‘imagery’. The report found that ‘18.9% of adults had used at least 1 mind-body therapy in the last year’ (ibid.). For a more ‘hands on’ perspective, <http://www.raysahelian.com/yoga.html> provides comments and scientific sources from the point of view of a practising MD.

<sup>74</sup> Raub’s review article, for example, concludes that yoga practice is likely to provide ‘useful psychophysiological effects for healthy people and for people compromised by musculo-skeletal and cardiopulmonary disease’, but that no proof or promising result has emerged to indicate that yoga therapy may help conditions such as chronic tinnitus or epilepsy ‘that do not have neuromuscular or neurovascular involvement’ (Raub 2002, p. 809).

<sup>75</sup> See Raub 2002, Taylor and Majmundar 2000, Taylor 2003, Hill 2004, Sherman et al. 2005.

<sup>76</sup> See Raub 2002, Jayasinghe 2004, and Innes et al. 2005.

<sup>77</sup> See Kirkwood et al. 2005.

<sup>78</sup> See Lewith and Watkins 1996.

<sup>79</sup> See Bower et al. 2005.

<sup>80</sup> One of the more cautiously worded examples will do for all:

Results from the emerging literature on yoga... provide preliminary support for the feasibility and efficacy of yoga interventions for... patients, although controlled trials are lacking. Further research is required to determine the reliability of these effects and to identify their underlying mechanisms (Bower et al. 2005, abstract).

that Mind-Body Medicine is underused as intervention for conditions for which it is recognised or believed to be good, and the authors suggest that there is much potential for growth in this area.<sup>81</sup>

If the trajectories established over the last 40 years or so are anything to go by, there is little doubt that we will witness a substantial growth of Mind-Body Medicine research and therapeutics over the next few decades. As techniques relating to yoga (and meditation) have been and remain foundational to this approach, there will naturally be a corresponding growth of studies in this area.

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<sup>81</sup> Wolsko et al. 2004, p. 43.

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