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EDITORIAL NOTES

This Newsletter is prepared by the Theosophy-Science Group in Australia for interested members of the Theosophical Society in Australia. The email version is also made available on request to members of the Theosophical Society in New Zealand and USA by the respective National bodies. Members in USA should contact tsa@theosophical.org

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As editor of this Newsletter and Convener of the Australian Theosophy-Science Group I hope to continue providing readers with news of our activities, past and future, as well as articles of general scientific and theosophical interest. I would welcome contributions from our readers.

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The next Theosophy-Science Symposium shall follow on from the coming Indo-Pacific Federation Conference

The Theosophical Society is part of the Indo-Pacific Federation of the TS, which holds a conference every 3 years. The Indo-Pacific conference is on from the evening of 14 October and finishes on the evening of the 18th with departures from the Rose Park Hotel, Auckland on the morning of 19 October. Details are at <http://ipf-ts.org>

The Theosophy and Science Seminar is from 6pm on 19 October and finishes at 9pm on 21 October at HPB Lodge, 4 Warborough Ave, Epsom, Auckland. Details are: <http://theosophy.nz/events/theosophy-science-seminar>

John Vorstermans, President, Indo-Pacific Fed. of the Theosophical Society

BRIDGING SCIENCE AND TRADITIONS

Sent by Jacques Manich, France: Theoscience.org

Dear friends,

29 April 2016

Two years and three web site re-designs after initial start, Theoscience.org is finally on-line! It tooks some time, effort and knowledge acquisition to come-up with this platform. You may remember the overall aims and goals which were presented during the 2014 International Convention in Adyar. Since then I have been reading many books written by theosophists and scientists on the subject.

To quote a few : Ravi Ravindra - *Science and the Sacred*, Dr Edi Bilimoria - *The Snake and the Rope*, and the most up-to-date by Stephen Phillips - *The mathematical connection between religion and science* (a must-read). Rupert *Sheldrake remains also among my favorites* - see *The Science delusion: Freeing the spirit of enquiry*.

Many projects are launched, mainly by scientists, to open their fields to "border-line science". I am still convinced it is a favorable time to launch this initiative...but I would like to avoid the many pitfalls which have occurred with previous initiatives, most of the time driven by dogmas - on both sides of the table.

If we are convinced that we can bring some knowledge from the Traditions side to shed some light the state-of-the-art in modern Science, let's do it, with humility of mind.

One key to any success will be SIMPLICITY. Our world and its Life is so complex (for our limited intellect) that we may drown in ideas very easily.

So, I am proposing to start with a "simple" subject : the force of gravitation. Here we have a lot of material from Science and some from HPB. Let's see if we can work-out some advancements on it.

If there are any other (simple) subjects anyone would like to launch/initiate, please, do not hesitate. I will be eager to get any recommendations as well as advice on approaches to take.

Forums are ready to welcome your comments by subject, and the blogs can be used for any free discussion. You can register on the site and participate. I hope we can achieve some progress in bridging Science and Traditions.

My best feelings to you all,

Brotherly,

Jacques Theoscience.org

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"If humanism were right in declaring that man is born to be happy, he would not be born to die. Since his body is doomed to die, his task on earth evidently must be of a more spiritual nature. It cannot be unrestrained enjoyment of everyday life. It cannot be the search for the best ways to obtain material goods and then cheerfully get the most out of them. It has to be the fulfillment of a permanent, earnest duty so that one's life journey may become an experience of moral growth, so that one may leave life a better human being than one started it..."

Solzhenitsyn, Alexander. *A World Split Apart*. Commencement address delivered at Harvard University, June 8, 1978.

Do you love the Freedom of Thought Resolution but would also love to see more of Theosophy in the Theosophical Society and on its programmes?

Are you interested in what HPB, Annie Besant, J. Krishnamurti, N. Sri Ram, Radha Burnier, and many others, called “the real work”? Then the Theosophy Restoration Project invites you to view its blog, leave a comment, and when the call for donations of content is made, then to join the project.

<https://theosophyrestorationproject.wordpress.com/>

Best wishes,
Dara Tatray
National Secretary,
The Theosophical Society in Australia,

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Annie Besant and questions of social identity, cohesion, and national groupings

Victor Gostin

Following Annie Besant’s arrival in India in 1893, she looked for ways to serve her adopted country. In 1913 she formed a small group called “The Brothers of Service” to prepare for steady reforms in religious, educational and social issues, as well as in political reforms.

After the First World War, in 1926, Besant wrote a book called *INDIA, bond or free? A World Problem* where she wrote that “one of the purposes for which it [the Theosophical Society] was intended ... was the rescue of India from the materialism which was strangling her true life by the revival of ancient philosophical and scientific religions, and, by placing India as an equal partner in a great Indo-British Commonwealth, would avert a war of colour, and bind East and West together in a Brotherhood which should usher in an Era of Co-operation and Peace.” (pp. 26-27).

She went on to say: “Colonel Olcott had revived Buddhism and greatly uplifted Zoroastrianism; my first task, ... was to perform the same service to Hinduism, ... showing the insufficiency of materialism as an answer to the problems of life, and the immense superiority of Hinduism as a philosophy encasing an all-embracing religion and science of yoga, which was an open road to the world invisible, to the ancient Rishis of India and the East, to the Saints of Christendom, to the Wisdom which included all religions, excluding none” (p27).

And thus the following modern book analyzing ‘nationality’ engaged my interest. It is reviewed below by Olga Gostin.

NATIONS and NATIONALISM

Book review by Olga Gostin

Rationale: As we started a new year with the mayhem of unprecedented world-wide mass migrations ... real and imagined threats of terrorism, and a confusing challenge to the values and standards that we have hitherto embraced with complacency because they were essentially unchallenged and unthreatened, *Imagined Communities* was lobbed my way by none other than our T-Science coordinator as a possible relevant reflection on our times. Would I please summarise it?

By way of introduction I refer to Thor Kerr's brief obituary in *The Conversation* (December 16, 2015) following the death of 79-year old Benedict Anderson a few days earlier while on a lecture tour in Indonesia. "Anderson left the world with a set of profound works on the formation and mobilisation of communities...Thanks to him we have a better chance of understanding the internal and external politics of any large modern community". Though specialising in the nuances of community formation, stabilisation and disruption in Southeast Asia, Anderson's theoretical insights and legacy as set out in *Imagined Communities* and other works, have extended worldwide across many disciplines in the social sciences, including cultural studies, politics, media studies international relations and history. So here goes. As in previous summaries-cum-reviews, I have put my own reflections in square brackets.

Benedict Anderson, *Imagined Communities: Reflections on the origin and spread of nationalism*, Verso, London, 1983, 1991 (revised and extended edition).

In the introduction to his book Anderson acknowledges, like several historians before him, that no all-encompassing scientific definition of *nation* can be devised, yet the phenomena of *nation-ness* and *nationalism* exist, persist, and underlie much of current political and social action. These are '*cultural artefacts* of a particular kind' (1991:4) informed by three perplexing paradoxes: (1) the objective modernity [recentness] of nations to the historian's eye vs. their subjective antiquity in the eyes of nationalists; (2) the formal universality of nationality as a socio-cultural concept – the presumption that everyone belongs to a distinctive nationality, and (3) the political power of nationalisms vs. their philosophical poverty and even incoherence (1991:5).

Faced with these incongruities, Anderson proposes the following definition of the nation: '*It is an imagined political community – and **imagined** as both inherently **limited** and **sovereign***' (1991:6, my emphasis). The author explains: The concept is *imagined* because though the members of even the smallest nation will never know most of their fellow-members, meet them, or even hear of them, yet in the minds of each lives the image of their communion. Nationalism is not just the awakening of nations to self-consciousness : it *invents* nations where they do not exist. Indeed, Anderson goes as far as to suggest that *all* communities are imagined by their members who infuse them with identities that are effectively cultural fabrications. By definition, however, nations are imagined as *limited*, each with defined boundaries

(however elastic they might be), beyond which are other nations. 'No nation imagines itself coterminous with mankind' (1991:7). [Herein lies an interesting theosophical conundrum relating to our first objective]. Finally, the nation is imagined as an **autonomous community** that regardless of inequality and exploitation *within* its borders, nevertheless conceives of itself as 'a deep, horizontal comradeship' (1991:7). Ultimately it is this imagined fraternity that gives license to kill and willingly die for the limited imagining that is one's nation and to which one expresses allegiance.

This is heady stuff, and Anderson opens his second chapter on cultural roots by invoking 'the most arresting emblems of the modern culture of nationalism', to wit, cenotaphs and tombs of Unknown Soldiers. Consider the public reverence accorded to these monuments that are either deliberately empty or whose remains are by definition, unknown. Despite this, or rather, *because* of this *material* void, these monuments are the focus and rallying point of national *imaginings*, shared *communal* ritual [and in Australia's case, of overt and explicit association with the wars that have been touted as the foundation of our national identity].

In a complex argument Anderson suggests that in earlier times [i.e. before the emergence of nations] such imaginings were often associated with religious commonality and/or shared language as well as dynastic realms (1991:12). Put simply, huge swathes of peoples were subsumed under one umbrella such as the Roman, Ottoman or Persian Empires where a dominant (often 'sacred') language (e.g. Latin, Arabic), religion (e.g. Christendom, Islamic Ummah), or the powerful dynastic realms of despots (e.g. Alexander, Caesar, Kublai Khan) provided an imagined sense of commonality. "But in the older imaginings, where states were defined by centres, borders were porous and indistinct, and sovereignties faded imperceptibly into one another. Hence paradoxically enough, the ease with which pre-modern empires and kingdoms were able to sustain their rule over immensely heterogeneous, and often not even contiguous, populations for long periods of time" (1991:19).

Over time, however, the three imaginings began to unravel. The fall of Latin for example, "exemplified a larger process in which the sacred communities integrated by old sacred languages were gradually fragmented, pluralized, and territorialized" (1991: 19). In like manner the religious imperative was diluted by the age of reason in the west, while dynastic realms were markedly reduced in size. Moreover there were other forces at work generating new commonalities that in time emerged as the defining characteristics of *national* imaginings. A crucial transformational element according to Anderson, was the rise of the novel and the newspaper in eighteenth century Europe. It was not just the sharing of an experience through reading but the emergence of a narrative that drew on or generated new allegiances, values and themes. The popularity of novels was second only to the importance of that 'one-day best-seller', the newspaper, that in those days as today, remains an important manipulator of public sentiment and commentator on events. The fact that seminal authors like Dickens serialised their novels in newspapers points to the symbiotic

relationship between these two forms of literacy. As Anderson reflects: "Fiction seeps quietly and continuously into reality, creating that remarkable confidence of community in anonymity which is the hallmark of modern nations...[P]rint-capitalism made it possible for rapidly growing numbers of people to think about themselves, and to relate themselves to others, in profoundly new ways" (1991:36).

The combined effect of the dethronement of Latin and the rise in popularity of the press asserted the importance of vernacular languages that had always been spoken by the populace but had been relegated to irrelevancy by the ruling tiers of society, the imposition of an alien administrative language, and the dominance of creeds that largely ignored the vernacular (e.g. Latin in Catholicism, Arabic in Islam). The impact of print-capitalism was to dethrone Latin as a language of power and to affirm a monoglot, mass reading public. Print languages laid the bases for national consciousness in three ways: (i) They created unified fields of exchange and communication "below Latin and above the spoken vernaculars" – the latter referring to the importance of *standardised* English, French or Spanish overruling the nuances and obscurities of dialects within these mainstream languages (1991:44); (ii) print-capitalism gave a new fixity to language, which in the long run helped to build that image of antiquity so central to the subjective idea of the nation; (iii) print-capitalism created languages-of-power of a kind different from the older administrative vernaculars. Thus High German, the King's English and later, Central Thai were elevated to a new politico-cultural eminence (1991:45). By the same token, there have been deliberate attempts to suppress some local vernaculars from going into print and entrenching themselves in any autonomous way lest they become a force to challenge the dominant language/political authority. Anderson discusses these aspects in some detail with examples from SE Asia and Latin America, though the latter does not quite fit his theoretical mould. The essence of his reasoning remains that the convergence of capitalism and print technology created the possibility of a new form of imagined community that set the stage for the modern nation (1991:46).

It goes without saying that the processes mooted above were necessarily linked to the degree and spread of literacy among the general populace. Nor was language the sole, major or necessary determinant of emerging nationhood, as Anderson clearly shows in his chapters on nascent nationhood in North America and the rise of *multiple* (Spanish-speaking) nations in South America. Meantime vernacular languages-of-state also assumed positions of privilege. "Thus English elbowed Gaelic out of most of Ireland, French pushed Breton to the wall, and Castilian reduced Catalan to marginality" (1991:78). Even so the general rule prevailed that "The new middle-class intellegentsia of nationalism had to invite the masses into history; and the invitation-card had be written in a language they understood" (Anderson quoting T. Nairn, 1991:80).

Sometimes, the invitation came by official delivery backed by an iron fist. This process led to so-called 'official nationalisms' of which the Czarist Russification is the best-known example. "These 'official nationalisms' can best be understood as a means for combining naturalization with retention of dynastic power, in particular over

the huge polyglot domains accumulated since the Middle Ages, or, to put it another way, for stretching the short, tight skin of the nation over the gigantic body of the empire" (1991:86). The assumption was that the effective imposition of a pervasive official language [as in tsarist, then Soviet Russia, the British Raj or French colonies for that matter] would be the conduit for cultural infiltration of (Russian/British/French) values, education and lifestyle. "A sort of mental miscegenation [was] intended" (1991:91). But as, Anderson concludes, "In almost every case, official nationalisms concealed a discrepancy between nation and dynastic realm"(1991:110).

Having established the basic parameters under which nations could emerge, Anderson goes on to show how many of these ideas in fact fail to explain the emergence of colonial nationalisms. Why has English remained the national language of Ghana or French the *lingua franca* in some ex-French colonies in Africa while it was dumped in Indochina? How did Indonesia assume nationhood across its vast culturally distinct islands while Indochina broke up into the separate nations of Vietnam, Laos and Cambodia? What was the relationship between new national capitals and the colonial metropolis? What role the new intelligentsia, bilingualism, education and grassroots literacy in forming and sustaining emergent nations? How relevant were/are ongoing relations and communications within the former imperial realms [think the British Commonwealth of nations]? Anderson navigates these vexed questions with aplomb and a fascinating sense of history that this reviewer can neither match nor evaluate.

True to his underlying theme of nations as imagined communities, Anderson dismisses the comparative importance of any one language, whether vernacular or ex-colonial. What imports is "its capacity for generating imagined communities, building in effect *particular solidarities*...Above all, the very idea of 'nation' is now nestled firmly in virtually all print-languages; and nation-ness is virtually inseparable from political consciousness" (1991: 133, 135). This point is elaborated further in a fascinating analysis of the creation of the Swiss nation state with its three official languages, leading him to the observation that "nations can now be imagined without linguistic communality" (1991:135).

Having attempted to delineate the processes by which the nation came to be imagined, Anderson raises the question which set him on this tortuous search: Why are people ready to die for these inventions, prompted by near- pathological allegiance to the nation-state or spurred by self-sacrificing love for the (fabricated) motherland? Once again he reiterates the importance of language, poetry, and especially national anthems as rallying points. The latter create what he calls 'unisonance' (1991:145) that connects patriots through imagined sound and associated meanings [memes]. In diverse [multicultural] nations individuals will seek to extend their roots as far back as possible to affirm their connection to the nation. [Think how penal ancestry has suddenly become so positively valued in contemporary Australia; how modern Australia capitalises on Aboriginal antiquity (as in the opening scene of the 2000 Olympics); or how the national flag of Cambodia adopted in the middle of the 20th century bears the outline of Angkor Wat built in the

11th century – the only national flag, by the way, to feature a building]. Anderson in fact suggests that modern nations, especially in the post-colonial era, piggyback on the past glories and structures of their demoted antecedents. "[S]uccessful revolutionaries also inherit the wiring of the old state...Like the complex electrical system in any large mansion when the owner has fled, the state awaits the new owner's hand at the switch to be very much its old brilliant self again...The more the ancient dynastic state is naturalized [nationalised?], the more its antique finery can be wrapped around revolutionary shoulders" (1991:160).

Anderson then addresses the relationship between patriotism and racism, though his book published in 1985 predates key events of subsequent decades. [Specifically, I urge the reader to consider the infamous Cronulla riots of December 2005 in southern Sydney and the current refugee crisis in Europe as over a million would-be migrants flood into Greece, Germany and every country in-between]. The author dismisses any necessary link between patriotism and racism asserting that "the fact of the matter is that nationalism thinks in terms of historical destinies, while racism dreams of eternal contaminations" (1991:149). Food for thought.

In his penultimate chapter Anderson elaborates further on the relationship between colonial powers and the emergence of independent nations from their erstwhile colonies. Specifically, he identifies three 'colonial ideologies' that (unintentionally) acted as midwives to this process. These were the census, the map and the museum (1991:163). Referring to Southeast Asian examples, the author shows how these factors helped to tabulate, classify and impose an imprint on the colonies and their disparate populations, fluid borders and 'exotic' cultural attributes. These colonial garbs were subsequently appropriated by nationalists and revolutionaries as the very basis of their uprising against the metropolis. Thus Anderson cites the Thai scholar Thongchai: "A map anticipated spatial reality, not vice versa... [It] was a model for, rather than an model of, what it purported to represent" (1991:173). Referring to the colonial obsession with censuses and the identification and tabulation of different ethnic groups, including those resulting from 'miscegenation', Anderson adds: "[B]y a sort of demographic triangulation, the census filled in politically the formal topography of the map" (1991:174). But, as we have seen, the map-as-logo "penetrated deep into the *popular imagination*, forming a powerful emblem for the anticolonial nationalisms being born" (1991:175, my italics). [This explains how the new nation of Indonesia laid claim to the whole of the Dutch East Indies empire, irrespective of the manifest huge cultural and socio-political divergence say between Java and West Papua, which remain a source of contested identity to this day].

In the same vein, Anderson suggests that "museums and the museumizing imagination are profoundly political"(1991:178). For colonists, museums formerly labelled and stored and perpetuated cultural elements in a straightjacket of their interpretation. The state postured here as the conserver and protector of Tradition at the very time that it was imposing a different socio-political and administrative mould on the colony and its people. At the same time huge projects of restorative archaeology were initiated at such iconic places as Borobodur and Angkor Wat,

consolidating the image of the state as the guardian of tradition. "Interlinked with one another, then, the census, the map and the museum illuminate the late colonial state's style of thinking about its domain...It was bounded, determinate, and therefore – in principle – countable...Map and census thus shaped the grammar which would in due course make possible 'Burma' and 'Burmese', 'Indonesia' and 'Indonesians'...all ow[ing] much to the colonial state's peculiar imagining of politics and power" (1991: 184-5).

Anderson's final chapter entitled 'Memory and Forgetting' deals with the nationhood of the USA (the first nation-state, antedating subsequent movements in Europe and ex-colonial states) and how memories of origins have been deleted not only in the USA but in other situations as well. Thus Spanish has remained the national language of several nations in South America and the Philippines without needing to rehash the indignity of the colonial past. In the new imaginings of nationhood, the new states look deeper into their past, to times preceding the colonial invasion. The anonymous dead, sacrificed at the altar of preceding rulers are celebrated for their valour, for their connection to an earlier 'golden age' that becomes the undisputed foundation of the new nation-state. As Anderson puts it "The silence of the dead was no obstacle to the exhumation of their [presumed, reconstructed] deepest desires... This reversed ventriloquism helped to open the way for a self-conscious *indigenismo*, especially in the southern Americas" (1991:198).

So, where does this summary take us? How relevant is it to our contemporary situation, nationally and internationally? I am not sure. On the national front we are asked to recognise the First Australians in our Constitution. That is already on the agenda. Beyond that there is the question of a republic, of a new national flag, of the possibility of drawing up a treaty with the original custodians of this land. Will we have the vision, the guts and the imagination to grapple with these issues? Time will tell. On the international front, we have the unravelling of the Syrian nation happening before our eyes, and the imaginings of a caliphate promulgated by opposing forces. Few would predict where these imaginings will take us, individually and collectively. Of one thing I am very sure: that it remains absolutely imperative that we retain the capacity and the safe intellectual environment that allows us to discuss these imaginings and engage in an open and respectful dialogue and debate about the future of us all.

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All life shows various degrees of intelligence.

Victor Gostin

With ever-new techniques and investigative skills, science continues to reveal the inherent intelligence of all animals.

Ants like a school of fish, or a flock of birds (in mumuration), have evolved to act in concert, a quality needed for coordinated movement. In one example, ants have an

astonishing ability to mix collective muscle with individual initiative for heavy lifting as reported in ABC Science, 29-7-2015: [www.abc.net.au/science/news/?site=science]. They show how a dozen or more ants working in unison to haul a large insect adjust their course based on new intelligence provided by a single ant (a “scout”) joining their effort.

Certain Brazilian ants (eg. *Forelius pusillus* colonies in Sao Paulo) were shown (with eight ants per colony) to lock themselves out – thus sacrificing themselves – by kicking sand over the entrance to hide it from predators [*The American Naturalist*, DOI: 10.1086/591688].

According to Colin Klein and Andrew Barron of Macquarie University [*The Conversation*, April 19, 2016] it appears that the origins of consciousness may lie in the structures of the midbrain – the evolutionary ancient neural core that our huge neocortex surrounds like a thick rind,. “Tying together knowledge, desire and perception in this integration is the start of a first-person perspective on the world, and thus the origin of conscious experience.” This fascinating article goes on say that complete mapping of the insect nervous system is now possible. Once completed, this will enable the building of a biologically-inspired drone that behaves like a honeybee in complex situations. Furthermore, the authors suggest that insects may be useful as scientific and philosophical models for the evolution of subjective experience.

And fish – like the Archerfish - have now been shown to be able to calculate the strength and direction of their water jets to knock down unsuspecting prey. Jonathan Bascombe is director of animal sentience for the **Humane Society Institute for Science and Policy**, as well as associate editor of the institute’s journal *Animal Sentience*. His recent summary article in the *Scientific American* [June 1, 2016] is titled: “Fishes Use Problem Solving and Invent Tools”, adapted from his book *What a Fish Knows: The Inner Lives of our Underwater Cousins*. [More on this topic in the next Newsletter].

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THE ANCIENT EPIC JOURNEY OF INDIGENOUS AUSTRALIANS

Victor Gostin

Newly available genetic investigations have provided reliable genetic data concerning the ancestry of the First Australians. According to Dr Francois Balloux of Imperial College, London: "Thanks to tremendous progress in sequencing technologies it is much easier to compare genomes of individual people, including those from geographically distinct populations. And by doing this you can learn a lot about when and via what route they came to be where they are today. In this way, the science of genomics makes a unique contribution to our understanding of when and how humans colonised the world." (*Science* 22 Sept. 2011)

Strong genetic evidence supports the hypothesis that present-day Aboriginal Australians have descended from the earliest humans to occupy Australia, and probably represent one of the oldest continuous populations outside Africa. They were the first modern humans that migrated far across eastern Asia possibly 62,000 to 75,000 years ago, eventually crossing the narrow straits that then separated Australia from SE Asia (Rasmussen et al. 2011; Gibbons 2011).

While many Aboriginal mythologies maintain that they originated in Australia, ongoing genetic studies are tracing their really distant ancestry into Asia and beyond. To point out the discrepancy between these two interpretations of Australian Aboriginal origins is not to denigrate or put down the extraordinary uninterrupted cultural continuity and survival of the First Australians in this continent. Sixty thousand years of demonstrated continuity is a unique and proud record by any standard. As a scientist my concern is that preposterous and fanciful extrapolations may in fact invite negation or suspicion of verified antiquity by those who would wish otherwise or confuse those who do not know where to seek reliable facts.

Excellent detailed reference books on Australian Aboriginal origins are the *Prehistory of Australia* by John Mulvaney and Johan Kamminga (1999, Allen & Unwin), and the revised 1995 edition of Josephine Flood's *Archaeology of the Dreamtime*.

To date confirmed results are that the earliest anatomically modern human remains found in Australia (and outside of Africa) are those of Mungo Man, that have been dated at 42,000 years old. Claims of a much earlier human presence in Australia at the Jinmium rock shelter [first claimed as 170,000 years old] were later re-assessed as being considerably younger due to contaminated material (Mulvaney and Kamminga 1999, pp.142-143).

A recent (2015) brochure by the Australian Museum entitled *The spread of people to Australia* states that "Modern humans had reached Asia by 70,000 years ago before moving down through South-east Asia and into Australia. However, *Homo sapiens* were not the first people to inhabit this region. An older species, *Homo erectus*, had already been in Asia for at least 1.5 million years. ... *Homo erectus* remains have never been found in Australia."

Indeed, archaeological discoveries in Africa have revealed a significant number and variety of human-related ancestors going back a few million years [Wikipedia : Human evolution/Species chart]. These include several species of *Homo* and *Australopithecus* in Africa, none of which have ever been found in Australia.

A recent publication (Jan, 2016) by 18 scientists led by Frédéric Saltré of The Environment Institute, University of Adelaide, considers three major factors impinging on the life of humans in Australia: the extinction of the megafauna, climatic variability and the overall aridification of Australia. The large animals (megafauna) included

numerous creatures such as giant wallabies and kangaroos, and the better known Diprotodon – a huge wombat-like beast.

Recent rigorous statistical analysis of 659 Australian megafauna fossils and their correlation with high-resolution climate records, shows that megafaunal extinctions were broadly synchronous among genera and were independent of climate aridity and variability in Australia. Furthermore, the megafauna began disappearing Australia-wide soon after human arrival, progressing to total extinction within 13,500 years (ie. by ~40,000 years).

The arrival of the first humans in northern Australia about some 55,000 years ago would have had a profound effect both on Aboriginal consciousness and on the environment (Saltré et al. 2016). The Australian environment had essentially been isolated from southeast Asia since its original Gondwana parenthood during the Mesozoic Era (dinosaur times ~100 million years ago). Its plants and animals were thus unique and totally different to those that Aborigines would have experienced in southeast Asia including tigers, elephants and primates of Asia – as observed and documented by Alfred Russell Wallace (as in the Wallace Line).

Since very early humans already could generate fire, the introduction of controlled and systematic fire-stick farming into Australia must have had a huge ecological impact. Aboriginal accounts of the giant creatures that populated their Dreamings/creation stories engage with the ancestral landscape, and testify to their assimilation into the new environment. By 39,000 yrs ago humans were present in Tasmania, and by 35,000 yrs ago, in the Centre (references in Saltré et al. 2016).

With plentiful food supply, the new continent must have been a veritable Eden with easy access to timid animals and huge eggs the size of rock melons weighing about 1.5kg. These were laid by the giant bird, *Genyornis newtoni*, that stood some 2m high. The eggs were cooked in campfires and their burnt fragments were analysed and dated by thirteen scientists led by Gifford Miller (Miller et al., 2015). Scientific investigation suggests that Aborigines were implicated in the demise of *Genyornis*. Many inland lakes were filled with fresh water and attracted rich bird life. Armed with nets designed to catch both birds and fish, humans enjoyed a rich and varied diet. The size uniformity of otoliths (fish ear bones) indicates the sophisticated use of gill-nets to trap the most desired size of fish (Balme 2013).

The use of ochre in human burial and the earliest-ever recorded cremation (at Lake Mungo, NSW) testify to metaphysical thinking as early as 45,000 years ago. Extensive galleries of rock art and petroglyphs found throughout the continent are further evidence of the vibrant cultural and spiritual life of the First Australians (Mulvaney and Kamminga 1999, p.257).

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Wikipedia : Human evolution/Species chart.

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World’s first nation of innovators: the Australian Aborigines.

Professor Darren Curnow, Univ. NSW, reviewed our present understanding of the cultural depth of indigenous Australians. He presents four examples in *The Conversation*, May 11, 2016.

1. “Australia saw the world’s first cross-horizon maritime journey by a people who would go on to discover an entire continent. ...For some archaeologists, the settlement of the island continent marks no less than the emergence of the human mind itself! “
2. “The earliest Australians had a rich spiritual and symbol filled culture, with a strong sense of the afterlife”, involving the world’s first cremation and the use of red ochre.
3. “Australia now lays claim to the oldest edge-ground axe. ... It also marks a very ancient cultural connection between these early pioneers and Indigenous people today, with edge-ground tools still being made until very recently.”
4. “Australia has the oldest evidence for deliberately shaping the bones of the skull to produce a distinctive head shape. It’s the earliest known example of cosmetic treatment! “

Professor Curnow concludes with the insight: “We continue to put more value on the places of pilgrimage of our Anglo and Western heritage – places like Stonehenge, the Roman Colosseum or the Greek Parthenon – than we do those of cultural and even evolutionary significance in our own backyard.”

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Mindfulness meditation scientifically shown to improve good health.

Jo Marchant, a Ph.D. in genetics and medical microbiology, and former editor of journals *Nature* and *New Scientist*, has recently published her third book: *Cure: A Journey into the Science of Mind over Body*, 2016, Text Publishing, 320pp.

She states that analyses of studies into mindfulness-based techniques consistently show the practice can slash pain and anxiety levels, reduce stress and improve the quality of life in patients with chronic illness. Marchant acknowledges that while some of the material in her book remains scientifically and medically controversial, many people attest to the reality of the power that our mind has over our body.

“Fascinating and thought-provoking. Marchant has travelled extensively around Europe and the US, talking to health workers and ordinary folk, to produce this meticulously researched book... *Cure* is a much-needed counter to a reductionist medical culture that ignores anything that doesn't show up in a scan... [it] should be compulsory reading for all young doctors.”

—***New Scientist***

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