
**Timothy H. Barrett**

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The traditional literature of Chinese science, medicine and technology is longstanding and copious, and generally ignored by those studying other facets of China’s past. Yet sooner or later, whether we prefer to read about religion, art or literature, a time may well come when we have to know about some plant or animal in the ancient or not so ancient text we are reading, and that necessity will bring us into contact with the celebrated *Bencao Gangmu* of Li Shizhen (1518-1593), a work so seminal that its modern incarnations are yet to be found in research guides to premodern China.¹

Yet anyone consulting this mighty compilation, by any estimation much more than the mere *materia medica* its title implies, is thereby drawn back into a world at least as different from our own as that which produced Nicholas Culpeper’s herbals, and a little help in understanding where Li was coming from has therefore long been sorely needed. In Carla Nappi’s new book we now have the very thing to fill that obvious gap. Those with a professional interest in the science, technology and medicine in East Asia will want to know what, in the end, she makes of this remarkable product of a remarkable man—a man whose own interventions in the vast field of writing that he attempts to synthesize drew not only on a wider range of writing than ever before, but also on a rich personal experience of medical practice.

This verdict is duly delivered at the close of four chapters exploring the dominant theme of metamorphosis in his vision of the natural world—a world so dynamic that for him it defeats reduction to any readily knowable limits. Rather, understanding of a reality possessed of change as its sole ‘Heraclitean constant’ (p. 140), demands no facile attempt at summary, despite the degree of regularity he saw as implied by the ‘Five Phase’

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(wuxing) structuring of the cosmos, but rather an attitude of strenuously pursuing the broadest possible knowledge by any available means: sight, smell, taste, and sound—and failing these, resort to argument from analogy or from relative location (p. 141).

How hard won these conclusions were for Li, and indeed for the author of this monograph, trailing him assiduously through the wealth of materials he bequeathed at a distance of four centuries, becomes abundantly clear in the earlier course of the narrative of this book, which especially for the reader with less specialist concerns becomes a tour de force in explaining both how Li’s encyclopaedia was put together and, incidentally, how a modern monograph is made.

One has to admire, too, the considerable care that has been taken here to make this work an attractive read as well as a practical guide, though this in fact means—as noted below—that at times information in the narrative is deferred to the place where it will not interfere with this priority. The book opens by expatiating on its own title, with a nod to the general problem raised by Jorge Luis Borges, among others, in understanding the sometimes bafflingly alien accounts of the natural world that we and all other human beings share that are offered by observers from cultures other than our own. Next we are succinctly introduced in the opening chapter to Li Shizhen himself, and the tradition within which he worked; this is then followed by a second chapter on Li’s working methods. These chapters are then followed by an “Interlude”, which takes the reader straight into a Bencao Gangmu entry, and explains its structure and the significance of its various component parts.

The entry chosen is that on the medicinal use of dragon products, chiefly the well known ‘dragon bones’ of traditional pharmacy, the material medica that to us are often simply fossil items. The hurried reader might conclude from this that Li’s book is like a medieval European bestiary, opening grandiosely with mythical monsters and working its way through to the least exciting life forms—molluscs and the like. In fact, as emerges later (p. 72), Li actually starts his book much more insipidly with rainwater. The dragon rubric, too, does offer a chance to explore a maximal entry in the Bencao gangmu, but a full discussion of what seeing a dragon might have meant to a Ming observer is deferred to the chapter on animal drugs, which section draws on Mark Elvin’s extended essay on this very topic as it appears in the work of one of Li’s younger contemporaries.2 All this may of course suggest to the more reflective reader that the organization of knowledge is a matter of multiple choices as much as a predetermined mindset, whether in sixteenth century China or twenty-first century America.

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2 This is cited here in n. 35, p. 195, from its 1994 journal publication; this research is also incorporated into Mark Elvin, The Retreat of the Elephants: An Environmental History of China (New Haven and London: Yale University Press, 2004), chap. 11.
The more hurried reader, on the other hand, may not have been alerted to the subtle way in which in the next four chapters we are in fact being conducted very skilfully through the consecutive divisions of Li’s classification of his text in such a fashion as to learn gradually the main ideas that informed his view of his materials. The inanimate world, plant life, bug life and finally animals, including the human animal, are all made in turn vehicles for an illuminating and well documented discussion of Li’s intellectual presuppositions. This exercise is then rounded off neatly with an account of the life of the text and of its author’s reputation following its completion and his death shortly thereafter. This extends to an illustrated children’s book of 1955 in the Needham Research Institute, in which a depiction of Li’s dissection of a pangolin is reproduced, together with the annotation of Joseph Needham himself scrawled upon it. English-reading adults by this time were soon to be treated to a fuller biography, prefaced by the warning that since details of Li’s life are sketchy, “The author has filled in the details through literary imagination” — in other words, that the relatively blank canvas has allowed Li to be depicted quite shamelessly as a straightforward revolutionary hero.\footnote{Carla Nappi’s work has by contrast been scrupulously constructed according to the best of academic standards. But such a well-crafted presentation of a complex book and its author is perhaps bound to prompt the thought that helpful as this picture is, other styles of portraiture might also have their place.}

What if, for example, the creation of Li’s reputation was seen as something that was already under way during his lifetime? Surely the great cultural arbiter, Wang Shizhen (1526-1590), who as a friend of a friend furnished the key preface to the book that no doubt secured its publication, was bound by the contemporary etiquette of patronage to make the point that Li was not simply an ordinary doctor, but in fact more of an encyclopaedic scholar (pp. 26-27)? True, Li himself modestly raises the suggestion that his compilation is making a contribution to classical learning by identifying plants and animals in ancient texts (p. 21), but this remark comes quite far down his prefatory list of guidelines — item nine out of twelve, in fact. But encyclopaedic gigantism was part of the cut and thrust of the Ming publishing world: if Li did not want to see his life’s work trumped by some other product, it had to be bigger and better than any earlier work. And the inherent demands of encyclopaedism are in any case easy to verify even in our own times. Take, for instance, the New Larousse Gastronomique, which may well be in your own kitchen, and consider its

\footnote{Chang Hui-chien, \textit{Li Shih-chen: Great Pharmacologist of Ancient China} (Peking: Foreign Languages Press, 1960), p. [vi]: this publication evidently antedates the rise of pinyin at the press concerned.}
entry on cooking bison meat.\textsuperscript{4} The likelihood of your local meat supplier providing you with a stock of bison meat is remote in the extreme, so any ordinary family cookbook can safely ignore the possibility, but it is the business of an encyclopaedia to be encyclopaedic, so here one must be told what to do in that eventuality. Surely some of Li’s entries have an analogous status to the Larousse bison. This is not to deny Li Shizhen his claim on the title of scholar, but just to suggest that what might on the one hand be seen as an important early modern breaking through of traditional categories might also be seen as the insertion of a judicious amount of padding to give the prospective publication a satisfying bulk.

Nor is this to deny that Li Shizhen has a rightful place not simply in the history of botany but also of zoological classification, as modern Chinese scholars plainly see the matter.\textsuperscript{5} Carla Nappi is quite justified in describing him as a natural historian, though the sense in which she uses this term (p. 21) would seem to come closer to that of ‘historian of the natural’ than anything we might expect. By comparison with Europe (which she eschews, wishing to explain Li on his own terms), he is certainly closer in his bookishness to Pliny than, say, to Gilbert White, though there is some observation in Pliny and in Li Shizhen, and some bookishness (including a familiarity with contemporary sources on China) in White.\textsuperscript{6} But Li’s bookishness is very much of his time and place, right at the heart of the Ming printing revolution. It is not simply that Li consulted according to his own bibliography over nine hundred different sources—Pliny would have applauded that, but perhaps not been particularly impressed—it is more that not a few of the titles listed are themselves colossal works of reference sometimes almost twenty times the size of his own. Li’s penchant for culling information from such works is duly noted in this study (p. 47, and n. 57, p. 177), but the scale of the resources available to him is quite staggering, looking in places as it does much like the draft of a section on traditional resources in a modern reference work. He lists the three great Sui-Tang encyclopaedias; the four major official compilations—the smallest almost ten times bigger than his—compiled in the late tenth century; the three classic encyclopaedias of government; and several other Song encyclopaedias, to say nothing of large dictionaries and imperial gazetteers of various sorts besides.\textsuperscript{7} Making bigger compilations out of existing compi-


\textsuperscript{5} Guo Fou 郭郛, Joseph Needham and Cheng Qingtai 成慶泰, eds., \textit{Zhongguogudaidongwuxue shi} 中國古代動物學史 (Beijing: Kexue chubanshe, 1999), p. 138.


\textsuperscript{7} On these works, see Knight Biggerstaff and Su-yü Teng, \textit{An Annotated Bibliography of Selected Chinese Reference Works}, Third edition (Cambridge, MA:
lations was one of the vices of the age: one such example, the *Huiyuan xiangzhu* 彥苑詳註, was even published—quite illegitimately it would seem—under the name of Wang Shizhen. Yet to focus solely on the worst excesses of late Ming publishing would be to overlook the degree to which the wider circulation of copious amounts of hitherto hard to find material stimulated new developments, such as the rediscovery and much wider retelling of Tang tales.8

It is true too that Li is not exclusively a compiler of pre-digested materials, but a man who also sought information for new entries in the latest geographical works of his age. At a time when—according to the allegations of historians who know no Chinese, at least—China had lost interest in the wider world, we find that Li lists in his reading the Indian Ocean travelogue of Fei Xin 費信 (1388-1436?), the *Xingcha shenglan* 星槎勝覽.9 But we must note that at the same time he does do such things as unblushingly include in his bibliography the *Baize tu* 白澤圖, an ancient source that, as Don Harper observes, was long lost as an integral work before the archaeological retrieval of manuscript materials in the twentieth century, until which time the various early quotations preserved in encyclopaedias gave a very inadequate picture of its true nature.10

For an early modern man, then, Li still has plenty in his head that, like the mind of some Elizabethan magus, looks much more similar to what had gone before than to what was to come. Antiquity is still seen in no small part as if through a veil of radically fragmented and reorganised information, and his task is as much to reshape once again as to reconsider or reinterpret the evidence. That approach clearly came in due course. The careful interrogation of sources is usually associated with the classical *kaozheng* 考證 scholarship of the Qing, but it is also evident in for example the extended sifting of later sources on Song intellectual history in a work such as Li Fu 李紱, *Zhuzi wannian quanlun* 朱子晚年全論, of 1735. In the first flush of less limited access to the sources, broad reading was perhaps enough; it may just be however that careful reading took more time.

And there obviously is one respect in which Li Shizhen is clearly early modern, or at least very different from predecessors like Tao Hongjing or Sun Simiao: he is, in a quite literal sense, a materialist, a man whose

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expertise is associated very firmly with the evaluation of materials. This comes out most unambiguously in the section of his work devoted to the use of writing materials in medicine, discussed here on pp. 85 and 92. It is not the likeness of the demon-quelling Zhong Kui that cures, but the paper upon which the image is superimposed; likewise paper with seals printed thereupon.11 In the same subsection of his work Li similarly insists that it is the peach wood upon which charms are written that heals, not the charms themselves. The world of writing in healing contexts after all tended to communicate with the world of the spirits—and that, we must conclude, was not Li’s department. He may as his bibliography records occasionally draw his information from religious sources, such as Buddhist sutras like the Lotus Sutra, but to him they are just sources, not potential means of healing in themselves, as they were to at least some of his contemporaries.12

So Li Shizhen is somewhere between the magus and the modern scholar, though when to date the appearance of the latter in any culture is a somewhat arbitrary exercise. It was at any rate in Britain the essentially eighteenth century figure of Martin Routh (1755-1854) who in the nineteenth century enunciated the key modern precept that you should “verify your references”.13 The precept remains a sound one today, though not one that is easy at all times to adhere to. This is particularly so when dealing with the sources used by Jorge Luis Borges, for anyone working in the northern hemisphere can only guess as to what books might be available to someone working in the south of South America. The work under review concerning Li Shizhen takes its title from a passage in a compilation made by Borges somewhat (as he himself notes) in the spirit of Pliny. The source of the passage is succinctly given not simply in the English but also in the Argentine edition as “Wang Ta-hai (1791)”.14 This standard Wade-Giles rendering of that name leaves the proximate derivation of his story of the ink-drinking monkey entirely unclear, at least to me, since I know of no translations of “Wang Ta-hai” 王大海 during what one may call the Wade-Giles era of Chinese studies.

12 See Daria Berg, Perceptions of Lay Healers in Late Imperial China (Durham: Department of East Asian Studies, 2000), p. 12.
14 Jorge Luis Borges and Margaritta Guerro, Libro de los seres imaginarios (Buenos Aires: Kier, 1967), p. 76. I have unfortunately not had access to any earlier edition of this work.
One must assume even so that the Spanish of Borges represents a translation from the English of material ultimately derived from A Chinaman Abroad, a rendering of Wang’s Haidao yizhi 海島逸志 by Walter Henry Medhurst.¹⁵ As the subtitle of this work puts it, Wang provides “A Desultory Account of the Malay Archipelago”, so when the monkey is located in “the north”, it is the north of this region that is indicated, not China, and against Carla Nappi’s assumption Wang is not making any contribution to Chinese natural history at all, let alone expanding his horizons like Li (and, as she concisely shows, his successors), in search of new materia medica.¹⁶ Instead, somewhat like his younger contemporary Chen Wenshu 陳文述 (1775-1845), described by Giuliano Bertuccioli, though perhaps with a greater degree of realism, he is regaling his fellow citizens with tales of exotica in a distinctly different genre.¹⁷ Anthologizing and thereby reordering knowledge, after all, always re-contextualizes, and thereby, as in the case of the Baize tu, alters meanings. Borges invokes Pliny; Wang has no similar Chinese equivalent in mind.

It is perhaps inevitable that after starting with a reference to Borges, this study, devoted as it is to entering the mind of an author apparently living in a very alien intellectual world and explaining how he ordered the contents of that world as he saw it, should close with another very famous reference by Borges to the apparent incommensurability of Chinese analyses of the natural world with our own (pp. 148-149). There would alas seem to be no work that deals entirely satisfactorily with the knowledge of China displayed by this seminal figure.¹⁸ This is unfortunate, since to the discomfort of many working on China besides Carla Nappi, at least one reference to China on the part of Borges from among his non-fiction writings has been taken up by others and made use of, without any qualification or further explanation, as the basis for further quite irrelevant specula-

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¹⁶ As far as I can judge from the usage of the Medhurst translation, ‘north of the country’ should indicate the South-East Asian or perhaps South Asian mainland.

¹⁷ Giuliano Bertuccioli, Travels to Real and Imaginary Lands (Kyoto: Italian School of East Asian Studies, 1990), pp. 46-58. That Wang’s work was “written for amusement” is asserted in the translation, Chinaman Abroad, p. 7; I have not checked the original.

¹⁸ Thus Fishburn, Evelyn, and Hughes, Psiche, A Dictionary of Borges (London: Duckworth, 1989), p. 57, under the heading ‘China’ cross-refers to five other items only.
His famous essay of 1942 on the ‘Analytical Language’ of the Englishman John Wilkins (1614-1672) treats a topic that is interesting enough in itself, and one that has strong connections with contemporary (and almost entirely uninformed) seventeenth century English speculation on the nature of the Chinese language too, which language, it was then hoped, would turn out to be somehow a logical analytic descriptive system.\textsuperscript{19}

But this leads Borges to recall (or claim to recall) a description in the writings of the sinologist Franz Kuhn (1884-1961) attributed to a certain \textit{Celestial Emporium of Benevolent Knowledge}, a Chinese encyclopaedia wherein ‘animals as divided into a) those that belong to the emperor; b) embalmed ones; c) those that are trained; d) suckling pigs; e) mermaids’, and so on, with no obvious principle of organization at all. The list cited evidently was so bizarre as to shake Borges himself, for in the next paragraph he refers back to its compiler as ‘unknown (or apocryphal)’.\textsuperscript{20} Others, even more shaken, have supposed that despite the classification of his essay as non-fiction, he must have made the whole thing up.\textsuperscript{21} Those with a first hand knowledge of Chinese encyclopaedias in particular have found the entire list extremely odd.\textsuperscript{22} But on reflection the claim that he read this passage in the works of Franz Kuhn (1884-1961), while impossible to substantiate without access to German libraries, seems plausible enough, if we are prepared to assume that Kuhn was exaggerating just a little in describing a typical rather than actual encyclopaedia.\textsuperscript{23} The same unfortunately cannot be said concerning many of the hypotheses built upon his jocular remarks.

Consider for a moment this actual encyclopaedia list of entries under the same heading used by Kuhn: “a) mostly trouble; b) [that] rise and listen; c) [that live] upon a thousand hills”. In this case rather than use an identical

\textsuperscript{19} The hypothesis advanced here concerning Borges and Kuhn was originally included in a paper on imaginary sinology for the Conference on Orientalism and Modernism, King’s College, Cambridge, July, 2004, but would seem to be more germane to a discussion of Li Shizhen.

\textsuperscript{20} The literature on this topic is vast, but for an intelligent introduction see Umberto Eco, \textit{The Search for the Perfect Language} (London: Fontana Press, 1997), especially pp. 212-113, 242.


\textsuperscript{22} Thus, it seems, Eco, \textit{Perfect Language}, p. 207.

\textsuperscript{23} The best, and best informed, discussion of this type is in Zhang Longxi, \textit{Mighty Opposites: From Dichotomies to Differences in the Comparative Study of China} (Stanford: Stanford University Press, 1998), pp. 19-22; Carla Nappi refers to some earlier work by this critic.

\textsuperscript{24} Unfortunately I have not even had access to Kuhn, Hatto, and Gimm, Martin, \textit{Dr. Franz Kuhn (1884-1961): Lebensbeschreibung und Bibliographie seiner Werke}, Wiesbaden: Steiner, 1980.
keyword, ‘animals’, I have substituted the older word in English ‘cattle’, but such is indeed the beginning of the index entry in the Oxford Dictionary of Quotations.\textsuperscript{25} The traditional Chinese encyclopaedias used by Li Shizhen and countless others to great effect were essentially dictionaries of quotations, and while they could not list their entries alphabetically, the patterns of arrangement they followed are both orderly and yet also create juxtapositions just as unrelated as in an alphabetically ordered series.\textsuperscript{26} The headwords themselves invariably do follow some sort of analytic descriptive scheme, though with many individual variations, and so at this level are most similar to a thesaurus in English. But the entries themselves are most frequently ordered internally according to the type of literature excerpted, following established notions of the relative importance of different genres, and the resultant subdivisions are then further ordered by individual quotation chronologically.\textsuperscript{27} It seems probable that Kuhn, who as a translator of popular literature perhaps did not consult encyclopaedias frequently, may have misunderstood these finer points of organization, and so made the juxtapositions a little more alarming than they generally are, but his account is not entirely inaccurate.

Yet only by finding the original context of his remarks—assuming as we have to initially that they are his remarks rather than those of Borges—will it be possible to know how much weight to give to them. And, as I have indicated, verifying references is often as problematic for us as it was in the Ming, for all the explosion of information available on the Internet. Carla Nappi has done very well to show the way in which Li Shizhen, an important figure in early modern Chinese learning, can be made intelligible to our very different age. If this review has suggested that he was at the same time less than heroic in his scholarly stature, this is because it is assumed that achieving heroic status does not require diligence alone—it also requires the facilities necessary to check information and the time to do so, and until we encounter an heroic age of librarianship, coinciding together with less of a ‘publish or perish’ academic culture, that is going to remain difficult not simply for Ming Chinese but for all of us.

\textsuperscript{25} Thus Oxford Dictionary of Quotations, Third edition, p. 625.

\textsuperscript{26} Unfortunately a handy overall guide to the complex world of Chinese encyclopaedias has yet to be written in English, though one can point to Michael Loewe, “The Origins and development of Chinese Encyclopaedias”, China Society Occasional Paper 25 (London, 1987) as a good start.

\textsuperscript{27} One is relieved to see that Chinese principles of literary classification are at last becoming somewhat more widely known: see Vladimir Braginsky, The Comparative Study of Traditional Asian Literatures (Richmond: Curzon Press, 2001), pp. 44-45, 47.