is undoubtedly one of the best and most important books on ancient astronomy of the last decades.

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PAITIMĀNA. ESSAYS IN IRANIAN, INDO-EUROPEAN, AND INDIAN STUDIES IN HONOR OF HANS-PETER SCHMIDT. Volume I & II. Edited by SIAMAK ADHAMI. pp. xviii, 397, 13 figs., Costa Mesa, California, Mazda Publishers, 2003.
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This *Festschrift* is dedicated to an eminent indologist whose academic career spans half a century. Well versed in the problems and pitfalls of Sanskrit philology and its cultural traditions, matched by an almost equal acquaintance of its (Old) Iranian counterpart, his vast knowledge and erudition, Hanns-Peter Schmidt can claim no living equal in his field, after the recent demise of that other giant, the Dutch scholar F.B.J. Kuiper. It is regrettable that he is being felicitated by one of his many former students with a honorary publication only during his very advanced age. The title *paitimāna* is an Avestan form invented by the editor, corresponding to Pahlavi *paymān* 'measure, period; moderation'. This motto has been chosen by Adhami, since throughout his academic life Schmitt has followed this path, which is "the intermediate between excess and deficiency".

The book itself consists of two parts ("volumes"), covering Indian and Iranian subjects in 21 chapters. Of course, a photograph of the *honōrātus*, a bibliography of Schmitt's work and a list of names of scholars, acknowledging the dedication, have been included as well. Despite the title, only one "Indo-European" theme features in this publication, with the comparison of Greek πεῖραρ with Sanskrit *párvata-*, written by Georgios K. Giannakis. Even this article, which starts the chapters, has a strong Sanskrit component, having ample quotations from the RigVeda. This is followed by the Indian topics presented in seven chapters. Heidi Waltz treats the syntax of verbs of emotion in Sankrit (with excursions in Greek and Latin), whereas the (recently deceased) Avestan expert Bernfried Schlerath gives a new interpretation of RV 10.94. This is followed by the penetrating analysis of Vedic *vrā́* by Stephanie Jamison. The next contribution is from the Dutch sanskritist J.C. Heesterman, who offers his thoughts on the notion of non-violence, especially in post-Vedic texts. Albrecht Wezler examines the relation between the Vasiṣṭhadharmasūtra and the RigVeda as the/an origin of Hindu law. In the final indological chapters Michael Witzel comments on the ritualist and philosopher Yājñavalka and lastly, Jacques Duchesne-Guillemin describes the stylistic devices of the Bhagavadgītā.

In the subsequent Iranian section of thirteen chapters Prods Skjærvø addresses the mythical role of Zarathushtra as poet-sacrificer in the Avestan texts. A very extensive article is from Martin Schwartz, who critically assesses Gatha Y. 29 and the symbolism of the cow. This is followed by the contribution of Alberto Cantera on the phonology of Avestan *aṣ̌a-*. William Malandra discusses the interpretation of the *Gōhr ī āsmān* or *the substance of the sky* in Avestan, after which Rüdiger Schmitt treats the Iranian personal names found in Aristotle. In the following chapters Carlo Cereti describes the personal names in Middle Persian, while Antonio Panaino tackles the problem of the defective spelling of Pahlavi *māzdēsn*. The German Turfan-scholar *par excellence* Werner Sundermann explores the differences between Zoroastrian and Manichaean *āz*, whereas Touraj Daryaee discusses the origin of the epithet *gilšāh/garšāh* of Gayōmard. The author best known for his in-depth knowledge of ancient Persia, Richard Frye, raises the question, or rather, questions, of why the memory of the Achaemeanians was erased in the historiography of later Iranians. This is concluded by three chapters with a Sassanian

theme. A. Shapur Shahbazi clarifies the legend of the horse that killed Yazdagerd "the Sinner", while M. Rahim Shayegan considers the diverse approaches to Sassanian historiography. At last, the editor S. Adhami sheds light on the decipherment of some Sassanian seals.

Considering the limited space, it is impossible to comment on all the contributions, some of which are rather more suitable for a *liber amicorum*. Above all, I cannot claim sufficient competence to comment on all of them as they vary widely in thematic scope and aim. For the following writings I would like to offer some (substantial) comment, since they have attracted my attention or for which I felt that they could not pass without any proper criticisms *and* additional observations.

pp. 1–12: Georgios K. Giannakis, *Greek* πεῖραρ *Sanskrit* párvata–, *and related terms*

The author addresses the generally recognised similarity of Greek πεῖραρ 'constraint, bond; border, boundary' and Sanskrit *párvata*- 'knot (?), joint (of limps, time)', deriving both from a root ⋆*per* 'to cross, go through'. The perceived semantic incompatibility has been a source of controversy. Regrettably, after having perused this writing, I felt cheated. Rather than presenting yet a new angle or a critical appraisal of the longstanding problem of reconciling the meanings of the formally similar Greek and Sanskrit formations, it reads like an extensive summary of (the etymological part of) A.L.T. Bergren's work (*The Etymology and Usage of* πεῖραρ *in Early Greek Poetry*. American Classsical Studies 2, 1975), from which Giannakis cites copiously. I shall therefore give my own account of the conclusions of Bergren's thesis in a nutshell. Within Greek, the starting point seems to be πεῖραρ γαίης/'Ωκεανοῖο, which refers to not only the physical extremities of the earth/Ocean, but also the lines of demarcation of the world (Bergren, l.c.: 23). This implies that πεῖραρ is not only the (far) end itself, but it also *determines* this (far) end (Bergren: 32), from which 'boundary, limit, constraint' has developed: "that which limits the outward extension of anything" (Bergren: 101). As for Sanskrit, the meaning 'knot, joint' refers to "that at which one thing ends (and another begins)" (Bergren, *ibid*.). Admittedly Giannakis supplies us with more examples from Greek and mentions more recent literature, e.g. F. Bader (*La langue des dieux, ou l'hermétisme des poètes indo-européens*. Paris, 1989) and W. Nothdurft ("Noch einmal Πεῖραρ/Πείρατα bei Homer", *Glotta* 1978: 25–40). But he is not very critical nor selective with the forms/formations, which display a wide range of meanings, cited by other authors and summed up in the article. He evidently does not entertain the possibility of homonymy, ⋆*per¹* 'to go through, cross' and ⋆*per²* 'to strike' (cf. *Lexikon der indogermanischen Verben*. Wiesbaden, 1998: s.vv.) or semantic convergence of two separate, yet similar roots in Indo–European, ⋆*per* 'überschreiten' and ⋆*perH* 'hinüberfahren' (cf. J. Rasmussen, *Studien zur Morphophonemik der indogermanischen Grundsprache*. Innsbruck, 1989: 229, 306).

pp. 39–56: Stephanie W. Jamison, *Vedic vrā́: evidence for the svayaṃvara in the Rig Veda?*

This very thorough treatment of the hitherto obscure Vedic word *vrā́*- is an excellent example how a careful and meticulous, philological assessment of all the attested passages can lead to a convincing clarification of a word, to which, all too easily, even scholarly giants like Geldner or Oldenberg had given an off-hand meaning. The conclusion is that *vrā́*- means 'female chooser at a svayaṃvara'. I do not feel quite comfortable with the explanation that was proposed by I. Ickler ("Zum Problem der 'Kürzungen' in der Ṛgveda-Saṃhitā", *Studien zur Indologie und Iranistik* 1976: 109 f.) and adopted by Jamison, suggesting "that vrā- is a metrically induced shortening [better, "syncope"?] of a feminine ⋆varā́-, corresponding to m. vará- "suitor", in other words a "female chooser" (to vṛ "to choose")." (p. 41). Such a "shortening" (or "syncope", which Jamison prefers) does not have any parallels in Vedic, nor would such a shortening have had a "permanent" effect. Surely, the presence of m. *vará*- should have prevented or reversed such a development through analogical levelling. Also, invoking dialectal borrowing has always been a favourite "explanation", but since this form cannot be found elsewhere (outside Vedic), this remains *ad hoc*. Before I end with my own solution, I have to recall, on page 45, the passage cited by Jamison: RV I.121.2cd ("this devilish verse") *ánu svajā́m mahiṣáś cakṣata vrā́m ménām áśvasya pári mātáraṃ góḥ*. This passage contains the sequence *vrā́*-, *ménā*-, *mātár*-, apparently

the female roles in marriage. Leaving aside *vrā́-* for the moment, the meaning of *ménā-* is not quite clear. The interpretation of Karl Hoffmann (*Aufsätze zur Indoiranistik* I. Wiesbaden, 1975: 113–119) has been widely accepted: '*Kebse*' from lit. '(token of) exchange', cf. Lith. *mainas*, OCS *měna*. Jamison justifiably rejects this meaning (on account of an another passage, see below), preferring the earlier interpretation of 'wife'. The sticking point though remains this proposed semantic development from "(token of) exchange" to "wife" (or "concubine" for that matter). Although in practice women may have arguably "changed hands" from the father to the husband, this does not mean that it is considered by both parties (in the "marriage deal") as such: a marriage is simply not a business transaction similiar to the purchase and sale of cattle. Would not *ménā-* be used in other, commercial contexts as well? The sequence *vrā́-*, *ménā-*, *mātár-* no doubt refers to the matrimonial *rite de passage* for a woman, but although *ménā-* is similar to 'wife' in meaning (as deduced from the context), it cannot be a synonym of *jáni-*: it must rather represent a *function* of *jáni-*, just like *mātár-* 'mother'. Considering the natural course of a woman's married life (before the advent of Woman's Lib), the function prior to motherhood would be to provide the husband with love and sex. This makes the Aśvins to whom the following passage (as cited by Jamison) is alluding even more charitable: RV V.31.2 *amenā́ṃś cij jánivataś cakartha* " . . . auch die Unbeweibten hast du beweibt gemacht"[1] (Geldner). And of course, prior to these functions, the woman must be willing to marry, whence *vrā́-* 'the chooser'. As for the etymology, if we translate *ménā-* as 'the female lover, provider of marital bliss' a different etymology is required: it is not difficult to connect it to *máyas-* 'enjoyment, satisfaction', LAv. *maiiah-* 'joy of love' (notably Yt 19.80). To the equation we may add Pashto *mina* 'love' (*A New Etymological Vocabulary of Pashto*. Wiesbaden, 2003: 50), which morphologically agrees with *ménā-*. Returning to the morphology of Skt. *vrā́-*: we may still uphold a connection with the (seṭ !) root *vṛ* 'to choose', but *vrā́-* may rather reflect a different ablaut grade: (root noun ?) IE *$uleH_1$-, ? Lat. *lēna* 'procuress; temptress', *lēnō* 'pimp'.

pp. 195–248: Martin Schwartz, *Gathic Compositional History, Y 29, and Bovine Symbolism*

In this very long chapter Schwartz addresses Yasna 29, which contains some notoriously difficult passages, and its symbolism. He painstakingly analyses the structure and teases out the meaning of several words which received different interpretations in the past. As for his approach, Schwartz elaborates on the ideas of the scholar honoured in *Paitimāna*. Schmitt has noted that in several Gatha poems the stanzas showed "concatenations". These linkages are concentric and based on recurring, corresponding words. Y 29 is thus composed in the following way: *mā* 'me' in the first stanza recurs in the ultimate stanza, *dāta* 'give ye' in the second stanza is repeated in the penultimate stanza, *gao-* 'cow' in the third resurfaces in the antepenultimate stanza, etc. Other variations are also possible, notably a word in the first stanza being repeated in the second stanza, a word in the third stanza recurring in the fourth stanza, etc., for instance in Y 46. To complicate the matter, *different kinds* of concatenations may be found within one Yasna (as it is the case with Y 46). Since in Y 29 the cow plays a central role, it is only natural to look into the symbolism involved. Schmitt has argued that, following the summary of Schwartz, the cow represents the good *daēnā-* 'the vision/envisionment', i.e. it is both a faculty of the human psychological apparatus and a object of this faculty. This has a complementary creative, male faculty *xratu-* 'the triggering predisposition', whose realisation is *cisti-* 'cognition'. The 'Fashioner of the Cow' is the Holy Spirit *spəṇta- mainiiu-*.

As to his interpretations and clarification of the forms, Schwartz provides the reader with ingenious and original solutions. His elaboration on the concatenation of Y 46.18c *vīciθəm* 'judgment' and 46.10e *cinuuatō pərətūm* 'the bridge of the *judging* one'[2] is a very felicitous one, as it sheds light on the legalistic

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[1] The rather artificial translation which Hoffmann is more or less compelled to give in order to uphold *ménā-* 'concubine' just achieves the opposite: "Du hast diejenigen, die sich nicht einmal eine Konkubine leisten, mit Ehefrauen versehen."

[2] Cf. Bartholomae, *Altiranisches Wörterbuch*. Straßburg, 1904: col. 596: 'Brücke des Scheiders'.

connotation of the root *ci*– 'to discern, discriminate, select, sim.'. It may not be excluded that the homonymous root Av. *ci*- 'to atone for, expiate' (cf. Skt. *cay* 'to punish, take revenge') has influenced the matter. Another interesting and novel point is his assessment of 29.3a. *sarəjā*, for which Schwartz proposes the nominative of a neuter *sarəjan*- 'impulse, impulsion, propulsion'. It is etymologically related to, notably, Persian *šarzah* 'swift, ferocious', Chorasmian *šž* 'wild beast'.[3] We get an even more harmonious translation of the pertinent passage if we take 'ferocity' as the primary meaning, hence: *ahmāi aṣa nōi sarjā aduuaēšō gauuōi paitī.mrauua* 'They responded to him with Rightness: 'there is no ferocity nor hostility for the cow''.

Nevertheless, I cannot help to entertain serious doubts in some instances, especially when passages tend to be over-interpreted. A clear example is his treatment of 29.1b. *ā mā aēšəmō hazascā rəmō [ā]hišāiiā dərəšca təuuišcā* he declares that the object of *mā…[ā]hišāiiā* 'has bind, tied me up' is "*intentionally* [my italics, JC] ambiguous" (p. 203, 240), because it allegedly involves a kind of wordplay with the ambiguous stem *dərəš*- 'boldness, audacity' (formally resembling *darəz*- 'to fetter'). But since we do not have any knowledge what the Gatha composer(s) expected from the listeners to know, this is simply too conjectural. Another doubtful interpretation is *vafūš* which Schwartz translates as 'designs', relating it to *waf* – 'to weave'. I do not see any improvement of our understanding of the passages with *vafūš* by replacing the generally accepted 'statements, pronouncements (sim.)' with 'designs', envisaging Skt. *vápus*- 'form, beautiful form' (cf. B. Schlerath, *Awesta-Wörterbuch. Vorarbeiten* II. Wiesbaden, 1968: 150). Moreover, the comparison is also formally troublesome: the Avestan -*f*- needs to be reconciled with Skt. -*p*-. The attempt by Schwartz to mend this problem by assuming earlier Skt. *✶vábhus*- which was subsequent replaced by *vápus*- under the influence of the root *vap* 'to shear, shave' must be considered as failed.

Indeed, several etymological suggestions, which Schwartz has strewn in the notes, do not sound plausible, not in the least when one has to stretch the semantic developments. The etymological analysis of two forms in particular has caught my eye. On page 203 Av. *gaodāiiah*- 'cow-nourishing' is connected to Manichaean MP *gy'w*, NP *giyāh* 'grass, plant'. (cf. Gershevitch, 'Outdoor Terms in Iranian', *A Locust's Leg*, 1962: 80 f.). This is phonetically impossible: the old diphthong *✶au* could not have been shortened nor could it have disappeared in this (inlaut) position in Persian, cf. MP *gōšag*, NP *gōšah* 'corner' (deriv. of *✶gauša*- 'ear'), *rōbāh* 'fox' (*✶raupāsa*-). Although H.S. Nyberg (*A Manual of Pahlavi* II. Wiesbaden, 1974: 83) merely states "etymology?", I propose to connect *gy'w/giyāh* to Skt. *gáya*-, Av. *gaiia*- 'life' (also in the Persian learned borrowing *gayōmard* 'the primal man'), reflecting the possessive formation *✶gaia-auant*– 'endowed with life'. For a discussion of the usage of the -*auant*–suffix in (Middle) Iranian, see N. Sims-Williams ("The denominal suffix -*ant*- and the formation of the Khotanese transitive perfect", *Sound law and analogy*. Amsterdam (etc.), 1997: 317, ff., notably 323). The suffix generally becomes Persian -*(ā)vand*, but *giyāh* may derive from the nominative ending *✶gaia-auāh* instead, cf. *farrux* < Nsg. *✶farnah-uāh* vs. *farxundah* < GAsg. *✶farnah-uant°* + suff. *✶-aka*-. Also his interpretation of Av. *yaož-dā*- 'to make something partake of vitality' > 'ritually to hallow or purify' is fraught with difficulties. Going against a (more) commonly held view which takes *yaož-/yaoš*- as a neuter 'whole(some)ness, purification', (Skt. *yós* 'well-being', Lat. *iūs* 'law, judgment'), he explains *yaož*- as the genitive sg. *yaoš* of *āiiū*- 'vitality, life, lifetime, age'. However, the basic meaning of *āiiū*- is 'age, life-time', from which at best 'life' may have developed, but not 'vitality': Y 31.20 *darəgǝm āiiū təmaŋhō duš.xvarθǝm auuaētās vacō* 'a long life in darkness, bad food and "woe !". In Yt 8.11, 10.55 *āiiū* may have been a gloss for *zrū* 'time', on which see A. Lubotsky ("Avestan *zruuan*", ΠΟΛΥΤΡΟΠΟΝ. Moskva, 1998: 73–85.) Also its Indo-European cognate forms point to

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[3] The Germanic correspondences which are also cited by Schwartz are obscure: Middle High German *schelch* 'rutting, male deer', Old Norse *skelkr* 'fright, fear', Gothic *skalks* 'servant', etc.

the *duration* of life: Gr. (αἰών) 'lifetime, time, duration', Lat. *aeuum* '(life)time, eternity', Goth. *aiweins*, German *ewig*.

Another thorny problem is the interpretation of *viiānaiiā* in Y 29.6 and Y 44.7, also LAv. *viiāne* in Yt 10.64. Schwartz on p. 211 f. rejects the earlier translation put forward by Gershevitch (*The Avestan Hymn to Mithra*. Cambridge, 1959: 103, 213), viz. 'soul' (MP *gyān*, NP *jān* < *★ṷi-HanH-* 'to breath (out)'), arguing that "if Av. *viiāna-* meant 'soul', its absence from eschatological contexts would be odd. Moreover, for the three Avestan attestations 'soul' ('animation') is not apt, while some faculty of (supernatural?) awareness is. Finally, the OAv. correspondent to the OIr. ancestor of MPers. *gyān* would be trisyllabic, **★wi'āna-**, rather than the disyllabic form **wyāna-**..". The translation 'soul' (which is after all a christianised Germanic term), is certainly unfortunate, but if we stick to a more down-to-earth, the etymologically closer meaning of 'breath', Schwartz's first and second argument are no longer valid. Incidently, the (New) Persian forms not only mean 'soul', but also 'life'. As for the presumed disyllabic character of *viiāna-* of the two Gathic passages (depending whether or not the hiatus from a laryngeal has disappeared): the paucity of attestations hardly allows any firm statement. Moreover, it is poignant that the interpretation ('foresightful awareness') and etymology sought by Schwartz (to accommodate his interpretation of *vafūš*), viz. pres. mid. ptc. from the root *vī* 'to pursue, chase after, vel sim.' (cf. Skt. *vayⁱ*, Lith. *výti*), would also call for trisyllabicity: the root *vī* contains a laryngeal, whence *★viH-ā(H)na-* !

p. 250–265. Alberto Cantera, *Zu avestisch* aša-.

In his contribution of Av. *aša-*, Cantera argues that this form should derive from the zero grade *★ŕta-* 'truth, Truth' rather than the generally accepted form *★árta-*. Two further, recent treatments can be added, viz. E. Pirart ("Avestique *ṣ̌*", *Journal Asiatique* 2001: 87–146) and (M. de Vaan, *The Avestan Vowels*. Leiden, 2003: 593, 599). While De Vaan basically adheres to the traditional view of *aša-* < *★árta-*, Pirart rejects any involvement of the original (Indo-Iranian) accent. Cantera certainly has a valid point that there is no evidence for the full grade form *★árta-* within Iranian or Sanskrit. With no Avestan words having an initial *əṣ̌-* it does lend support to an internal Avestan development, which occurred "irgendwann nach dem 4. Jhr. u.Z." (p. 259): *★ŕta-* > *★ə̂hrta-* > *aša-*.

p. 275–291. Rüdiger Schmitt, *Iranische Personennamen bei Aristoteles*.

In this article the Iranian names found in Aristotle are discussed: Ἀνάχαρσις, Ἀριοβαρζάνης, Ἀρτάβαζος, Ἀρταπάνης, Ἀστυάγης, Αὐτοφραδάτης, Δαρεῖος, Δατάμης, Ζωροάστρης, Καμβύσης, Κῦρος, Μιθριδάτης, Ξέρξης, Φαρνάβαζος and Φαρνάκης. Anyone who is a bit familiar with R. Schmitt's work on Iranian personal names will find hardly any new facts. All interpretations have been discussed before and one is hard pressed to find a single new idea. His analysis of Κῦρος is striking. His rejection of the well accepted etymology, viz. from *★kuru-* 'young (boy)' ("...morphologisch nicht ausreichend fundiert und deshalb eher unwahrscheinlich.") is incomprehensible to me. The root *kur-* is amply attested in Iranian: MSogd. *kwrt'* (pl.) 'children', Kurd. *kur*, Bakhtiari *kur(r)* 'boy, son', etc. The morphology of *★kuru-* may be irregular, as words like 'son, boy, child' are susceptible to expressive or hypochoristic "deformation". Bearing in mind the legend of the extraordinary childhood of Cyrus I do not see any credible reason to discard this etymology. The old connection with Indo-Aryan *Kúru-*, which Schmitt seems to favour, is perhaps best to be abandoned, considering the lack of any support within Iranian, not to mention the (still) obscure origin of *Kúru-*[4].

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[4] The attempt to analyse it as *★kú-ru-*'der (die Feinde [im Wortgefecht vor dem Kampf] schmäht/erniedrigt' by Karl Hoffmann (*apud* Werba, "Zu einigen offenen Fragen der achämenidischen Onomastik", *Anzeiger der Österreichischen Akademie der Wissenschaften*, 1979: 16 ff.), as cited by R. Schmitt, can hardly be taken seriously.

Notwithstanding my criticisms sketched above, the book is certainly a fitting tribute to a great scholar with great interests in a broad range of Indian and Iranian subjects. Some contributions are absolutely worth mulling over a second or third time, others are fine examples of dedicated research. But there are also articles which may well be on a par with an average paper of a graduate student. Certain shortcomings of books such as this honorary publication are inevitable, when there are so many contributors with a well-established scholarly reputation, whom an editor may choose not to offend by refusing an article on grounds of poor academic quality.

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ASIA'S MARITIME BEAD TRADE, 300 B.C. TO THE PRESENT. By PETER FRANCIS, JR. pp. xii, 305. Honolulu, University of Hawai'i Press, 2002.
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The present accounts ends by saying: "Beads are not the most important thing on Earth. Yet neither are they trivial. They are survivors of a great variety of human behaviours." Furthermore: "Beads are common things. Small and often understated, they have long been overlooked. When they are studied, however, they begin to assume considerable importance" (p. 198). Peter Francis, author of several books and hundreds of articles, has devoted almost his entire life to the study of beads and he certainly knows their story better than anyone else in the English speaking world. The book under review here is a gigantic synthesis based on past academic research and, as such, resembles a complex mosaic with a myriad of little pieces.

Put differently, from the viewpoint of an economic historian, this is a huge commodity study which offers a multi-dimensional approach to a multi-faceted theme. The trade objects themselves had to be identified and classified according to shape and composition. Archaeological data, collected from various sites, had to be compared with textual evidence. A further requirement was to analyse different production techniques and marketing strategies. And it was also necessary to consider the general background in each case – geographical factors, trade routes, merchant groups, institutional, political, socio-cultural and other elements.

This ambitious endeavour was certainly not eased by the fact that Francis has opted for a vast geographical scope: it extends from the shores of East Africa to Japan and Korea. Occasionally there are also references to the European and Mediterranean scenarios, to Central Asia, Alaska and the insular world beyond New Guinea. The time frame is equally broad: Francis takes his reader through more than two millenia, from circa 300 BCE to the twentieth century.

Beads are manufactured goods. Historians specialised in Asian trade history will know that subcategories for such commodities are often difficult to establish. Regarding beads, the situation is highly confusing because, not infrequently, many types of beads or bead-like objects can be associated with several coastal sites and their respective hinterlands at roughly one and the same point in time, or over longer periods. Reconstructing the history of bead "exchanges", therefore, is a task almost as difficult to accomplish as summarising the history of intra-Asian ceramic "flows", or the circulation of coins. Francis tries to master this "job" by resorting to larger categories, for example the "Indo-Pacific" bead category, and by rigorously distinguishing between different raw materials used in the manufacturing process. There were glass beads, stone beads and beads derived from organic matter such as red coral. Certain rare types were of course excluded, for instance beads made of tortoise-shell. Other criteria for categorisation, usually on a subordinate level, relate to their shape and decoration. This is especially important in the case of glass beads, which were wound and coloured in different ways. Needless to point out, with so much glass and crystal involved in the production process, general