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Himalayan Palaeontologic Database Polluted: Plagiarism and Other Anomalies

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Abstract. Additional evidence is presented regarding spurious localities, plagiarised illustrations and other forms of disinformation injected into the Himalayan palaeontologic and stratigraphic database in the past 25 years, all connected with a single source

Keywords. Himalaya, Pollution of palaeontological data Plagiarism.

INTRODUCTION

Attention has already been drawn to the broad spectrum of spurious and dubious data injected over the past 25 years into the palaeontologic and stratigraphic database for the Himalayan region from Kashmir to Bhutan (Talent, *et al.* 1988, 1989; Talent, 1989a, 1990a; Ahluwalia, 1989; Bassi, 1989a, 1989b; Bhatia, 1989; Janvier, 1989). Attempts at rebuttal have sidestepped the fundamental charges (Gupta, 1989, 1990; Waterhouse, 1990); the responses have been addressed (Talent, 1990a, 1990b).

'Recycling', reporting the same specimens from more than one locality in support of new and sometimes startling stratigraphic alignments has now been shown to be more pervasive (Talent *et al.* 1989) than was at first assumed (Talent *et al.* 1988; Talent, 1989a). It was thought, for example, that the maximum number of instances of recycling the same specimens was three times, specifically for Carboniferous corals asserted to have come from two localities in Ladakh and one in Lahaul (see Talent *et al.* 1989, Table 2). Two specimens of these corals, in fact, have been recycled four times; the fourth occurrence (Gupta, '1971', Pl. 36, Figs 1, 4) allegedly from Ichnar, Kashmir.

Recycling of another style was exemplified earlier (Talent *et al.* 1989) by the case of the thin section of a coral illustrated by H. P. Lewis (1929) that had come into Gupta's hands and was figured again, with a Kashmir 'locality' (Gupta, 1969a). The evidence is displayed in Fig. 1.

A CONSISTENT PATTERN

It was earlier insisted that a vast number of reports were bizarre in terms of known patterns of palaeobiogeography and that the materials, curiously, were the sorts of things often found lying around teaching laboratories, readily obtained

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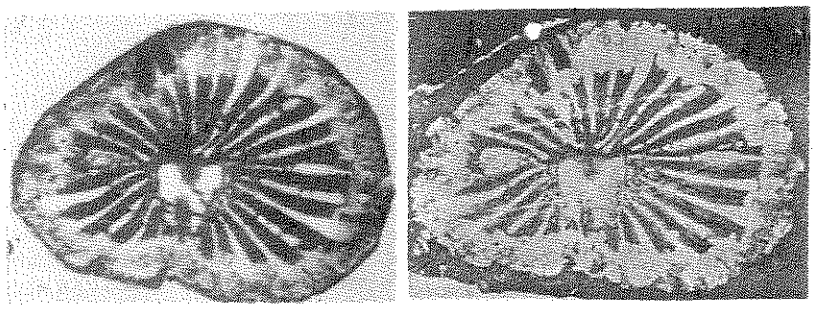


Figure 1. Lewis's (1929) figure of *Caninophyllum archiaci* (Edwards and Haime) [left] from North Wales photographed and printed back to front so as to have the same geometry and size as the specimen of *C. archiaci* reported (Gupta, 1969a) [right] to have come from Kotsu Hills in Kashmir. Note, for instance, the identical dilation of septal ends, the positioning of discontinuities in septa, and the positions of other defects. Lewis's and Gupta's figures were photographed from opposite sides of the same thin section. Figures are ×4.25.

from colleagues for 'teaching purposes', easily collected from classic localities, or that can be purchased for nominal sums from rock shops and curio counters around the globe. This was extensively exemplified (Talent *et al.* 1988, 1989; Talent, 1989a). In several instances, materials were reported to occur in associations never before reported from elsewhere, associations implying age-differences of 15-30 million years for different components otherwise known to be highly constraining as to age! It was insisted that other materials could be regarded as 'fingerprinted' because of peculiar associations or highly characteristic modes of preservation unique to specific localities elsewhere in the world.

Talent *et al.* (1989, Table 1) cited as an example of 'recycling' Lower Carboniferous conodonts said to have come from Spiti (Gupta, 1986) that were first published 10 years earlier as conodonts said to have come from Ladakh (Gupta and Kachroo, 1977). It should be noted that the assemblage described by Gupta and Kachroo (1977) is an incongruous association representing horizons scattered through the Tournaisian, Visean and Namurian. They are forms that have a relatively wide geographic distribution. Especially disturbing is that one of us (G.D.W.), in response "for some teaching specimens", sent Gupta, in 1973, an array of conodonts from several horizons in the Early Carboniferous of Nevada and Texas. The similarity of the specimens illustrated by Gupta and Kachroo (1977) to materials from the southwest USA is so striking that we are convinced that laboratory contamination must have occurred. An evaluation (G.D.W.) of the probable source of the materials is as follows:

The following forms illustrated by Gupta and Kachroo (1977, Pl. 1) are identical with specimens from the type section of the Chapel Limestone, Texas:

Fig. 1	*Siphonodella* cf. *duplicata*
Figs. 2, 3	*S. cooperi*
Fig. 5	*Pseudopolygnathus prima*

From the Bird Spring Formation, Arrow Canyon, southern Nevada:

Figs. 9, 10 *Gnathodus defectus* [actually *Delicognathus noduliferus*]

From the Battleship Wash Formation, Arrow Canyon, southern Nevada:

Figs. 12, 13 *Spathognathodus campbelli*

The following forms could have come from one of the Battleship Wash, Indian Springs or basal part of the Bird Spring formations, Arrow Canyon or from Mountain Springs Pass, southern Nevada:

Figs. 4, 6 *Gnathodus bilineatus*
Fig. 7 *G.* cf. *delicatus* (actually *G. girtyi simplex*)
Fig. 11 *Elictognathus lacerata* (actually an *Ozarkodina*).

The remaining forms may well have the following origins:

Fig. 8 *Idiognathodus* cf. *delicatus* looks like *Cavusgnathus* from Indian Springs Pass, southern Nevada. If it is *I. delicatus* it is most probably from the Bird Spring Formation, Arrow Canyon, southern Nevada.

Fig. 14 *Ligonodina* sp. could be from any of the above localities but is very similar to specimens from the Indian Springs Formation throughout Nevada.

It is accordingly clear that there has been laboratory contamination; we make no accusation as to how this may have come about. Conodonts from the various localities have differing colour indices. Access to Gupta and Kachroo's original specimens should therefore enable the above opinion to be probed.

That some of the Gupta materials are Indian is undeniable but, in view of the grand scale recycling and scrambling of locality 'data' that has occurred, we insist that there can be no confidence in the locality information provided in any of Gupta's papers. His principal co-author, J. B. Waterhouse (1990), has nevertheless insisted that Gupta's publications on the Cambrian, Carboniferous, Permian and Triassic of the Himalayas are positive contributions. The spurious nature of Gupta's publications on the Cambrian should be apparent from data presented earlier by Talent et al. (1988) and herein. The confused state of the Himalayan Triassic database should also be apparent from data presented earlier (Agarwal and Singh, 1981; Talent *et al.*, 1989). In order to dispel any illusions that the situation is somehow acceptable for the Carboniferous and Permian, the main focus of Waterhouse's 19 publications with Gupta, we present a summary of information on a dozen reports from those intervals (Table 1). That some of the materials may have had Indian sources is no surety that they came from anywhere near the alleged localities. Our conclusion remains: that Gupta has been even-handed. No interval of time, Cambrian to Pleistocene, has been spared; all have been copiously polluted with spurious data.

The non-Indian sources of Gupta materials span at least a dozen countries:

TABLE 1. A dozen items for evaluating the assertion that Gupta's Carboniferous and Permian reports "hold their validity" (Waterhouse, 1990).

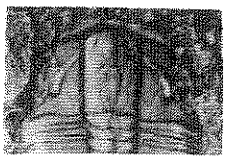
Alleged occurrence	Reference	Observations
CARBONIFEROUS		
Kotsu Hill, Kashmir *Caninophyllum archiaci* (Edwards and Haine)	Gupta (1969a) Curr. Sci., **38**(9): 217–218	North Wales specimen from H. P. Lewis (Ann. Mag. Nat. Hist. **10**(3): 456–468), collection housed in Aberystwyth; Gupta visited there 1967; specimen missing 1973
Carboniferous corals	Gupta (?1971) Publ. Cent. Adv. Stud. Geol. Panjab Uni., **9**	Recycled 2 specimens 4 times, with four "localities" (herein, and Talent *et al.* (1989) J. Geol. Soc. India **34**(6): 575–586)
Luneak Valley, Ladakh Carboniferous conodonts (8 views of 7 specimens)	Gupta and Kachroo (1977) Rec. Res. Geol., **3**: 206–208	Nevada–New Mexico "teaching material" (GDW herein, and Talent *et al.* (1989) J. Geol. Soc. India **34**(6): 575–586); used again with different locality in Gupta (1986) J. Geol. Soc. India **28**: 467–472
Carboniferous crinoid from "near Surichun La"	Webster and Gupta (1984) Indian Geol. Assoc. Bull., **17**: 139–143	Spurious. Actually from "Lipak limestone at Bindi-Pahariya on the right flank of the Chandra Valley in Lahaul" (Ahluwalia (1989) Nature **341**: 13–15)
PERMIAN		
Sarchu Bridge (Ladakh) fusulinids	Gupta and Kahler (1973) N. Jb. Geol. Paläontol. Mh., **4**: 207–215	Not reproducible; no appropriate stratigraphy or lithologies in the region (Talent *et al.* (1988) Cour. Forsch.-Inst. Senckenberg, **106**: 1–57; Ahluwalia (1989) Nature **341**: 13–15)
Kashmir blastoids	Gupta and Webster (1976) Riv. Ital. Paleont., **82**: 279–284	Unique preservation identical with Timor material
Bijni fauna Garhwal Himalaya	Waterhouse and Gupta (1978) Rec. Res. Geol., **4**: 410–437	Not reproducible at cited locality though similar material available some kilometres away (Talent (1989a) Nature **338**: 613–615, A. D. Ahluwalia and D. E. B. Bates, pers. comm.)
Ralakung Volcanics fauna Luneak Valley, Ladakh	Gupta and Waterhouse (1978) Rec. Res. Geol., **5**: 31–49	Not reproducible (MG herein)
Tidong Valley, Kinnaur district	Gupta and Waterhouse (1982) Rec. Res. Geol., **8**: 347–350	No entries (mandatory) in relevant security checkpoint registers for either author (Bassi (1989a) Nature **341**: 15–16; (1989b) J. Geol. Soc. India, **34**(6): 587–589)
"Early Permian" *Eurydesma*, Malung Shale, Ladakh	Waterhouse and Gupta (1982) Indian Geol. Assoc. Bull., **15**: 1–19	Inappropriate stratigraphy: **Triassic** at cited locality (Srikantia *et al.* (1983) J. Geol. Soc. India **19**(2): 73–78, Ahluwalia (1989) Nature **341**: 13–15)
Popanoceras from near Losar	Gupta (1987) Indian Geol. Assoc. Bull., **20**: 77–78	Inappropriate stratigraphy (Ahluwalia (1989) Nature **341**: 13–15)
Spiti Valley comelicaniid brachiopods	Waterhouse and Gupta (1987) Bull. Indian Geol. Assoc., **19**(1): 45–56 (imprint June 1986, distribution (=publication) early 1987)	Inappropriate stratigraphy at cited locality. Gupta joined in field-work collecting comelicaniids at Sass da Putia, N. Italy during 1986 meeting of IGCP 203. (MG herein)

Burma, China, Czechoslovakia, France, northern Italy, Morocco, Poland, the United Kingdom (including Wales), West Germany, the USA (Arizona-West Mexico; mid-continent; New York) and the island of Timor; Indian Pleistocene vertebrates were used to document two localities in Nepal (Talent *et al.* 1988, 1989; Talent, 1989a).

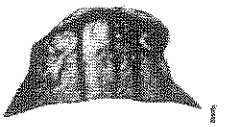
PLAGIARIZING PUBLISHED PICTURES

The spectrum of sources of materials is enlarged if account is taken for instances – not previously reported – in which illustrations of fossils in other people's monographs have been photographed, the pictures variously trimmed or touched up, and published as 'documentation' of faunas from elsewhere. One of the most striking examples of this practice concerns a Cambrian trilobite fauna allegedly found at Zachaldor in the Hundwara district of Kashmir (Gupta, 1967, '1971'). Seven of the nine illustrations accompanying Gupta's (1967) paper had been published 16 years previously by Franco Rasetti (1951) in a Smithsonian monograph on Middle Cambrian trilobites from the Rocky Mountains of Canada (Fig. 2; Table II). In case the reader might assume that Gupta had the same fauna at Zachaldor but naively illustrated it with photos of trilobites in Rasetti's monograph, it should be noted that Rasetti's figures were re-photographed and portions excised to generate the figures Gupta submitted for publication; just what has been cut away and what left is readily appreciated by comparing Gupta's figures with the source illustrations listed in Table 2. For example, the illustration presented as Gupta's Fig. 2 is the cranidium of Rasetti's Pl. 29, Fig. 8 with the thorax and pygidium cut off; Gupta's Fig. 4 is the glabella cut out of Rasetti's Pl. 31, Fig. 18. Intention to deceive would seem to be the only interpretation for such excisions!

In 'documenting' faunas asserted to be Middle Devonian and to have come from half to two-thirds of the way up the Muth Quartzite in southeast Kashmir, Gupta (1969b) used illustrations of Late Ordovician-Early taxa in a Palaeontologia Indica monograph by F. R. C. Reed (1912a) on faunas from the Central Himalayas (Table 3). Gupta (1970) supplemented this with illustrations of genuinely Middle Devonian (Eifelian) taxa from another Palaeontologia Indica monograph by Reed (1908) on faunas from the northern Shan States of Burma (Fig. 3; Table 4). In addition he presented illustrations of poorly preserved, inadequately prepared and, for the most part, taxonomically useless materials (individually evaluated in Talent *et al.* 1988, Appendix) that were indeed from Kashmir (Gupta, 1969b, 1970). Examination in 1971 by Talent and colleagues of the stratigraphic sequences in the vicinity of Gugaldar revealed that such materials occur exclusively in the Rishkobal Formation of Srikantia and Bhargava (1983) and are not to be found in the Muth Quartzite (*sensu lato*). They are Late Ordovician (Caradoc)-Early Silurian (Llandovery) materials – as A. J. Boucot has repeatedly insisted in a long but fruitless correspondence with Gupta (recounted in Talent *et al.* 1988) and are, in fact, the same faunas as had been discovered early in the century by C. S. Middlemiss (1910) and that formed the basis of a paper by Reed (1912b). Elements of this long-known fauna had been made to levitate, it would seem, to a stratigraphically more interesting horizon. Gupta's Muth fauna from Kashmir is thus an amalgam of pictures plagiarized from other people's monographs, supplemented by illustrations



Pl.29, fig.7



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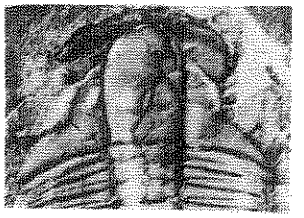
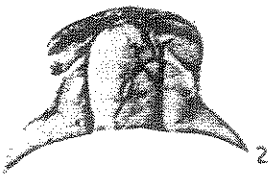


Pl.29, fig.8



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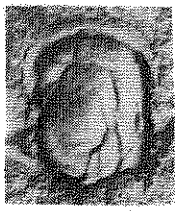

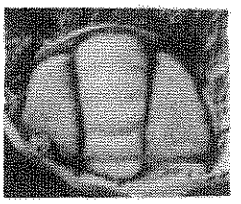

Pl.29, fig.6 Pl.31, fig.18

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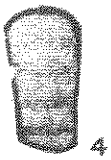

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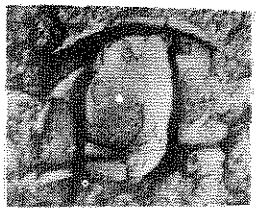
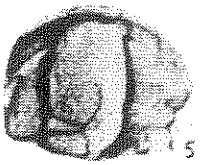


Pl.21, fig.3



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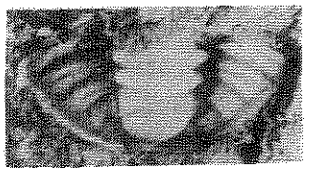
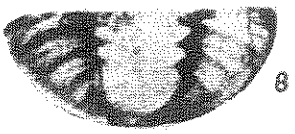


Pl.11, fig.15



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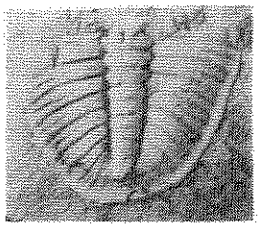

Pl.12, fig.5

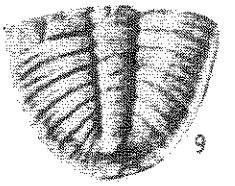

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Figure 2. Comparison of photographic illustrations of Middle Cambrian trilobites from the Rocky Mountains, British Columbia (Rasetti, 1951) [left] with those used by Gupta (1967) allegedly from Zachaldor, Kashmir [right]. Original plate and figure numbers are retained. See Table II for original magnifications.

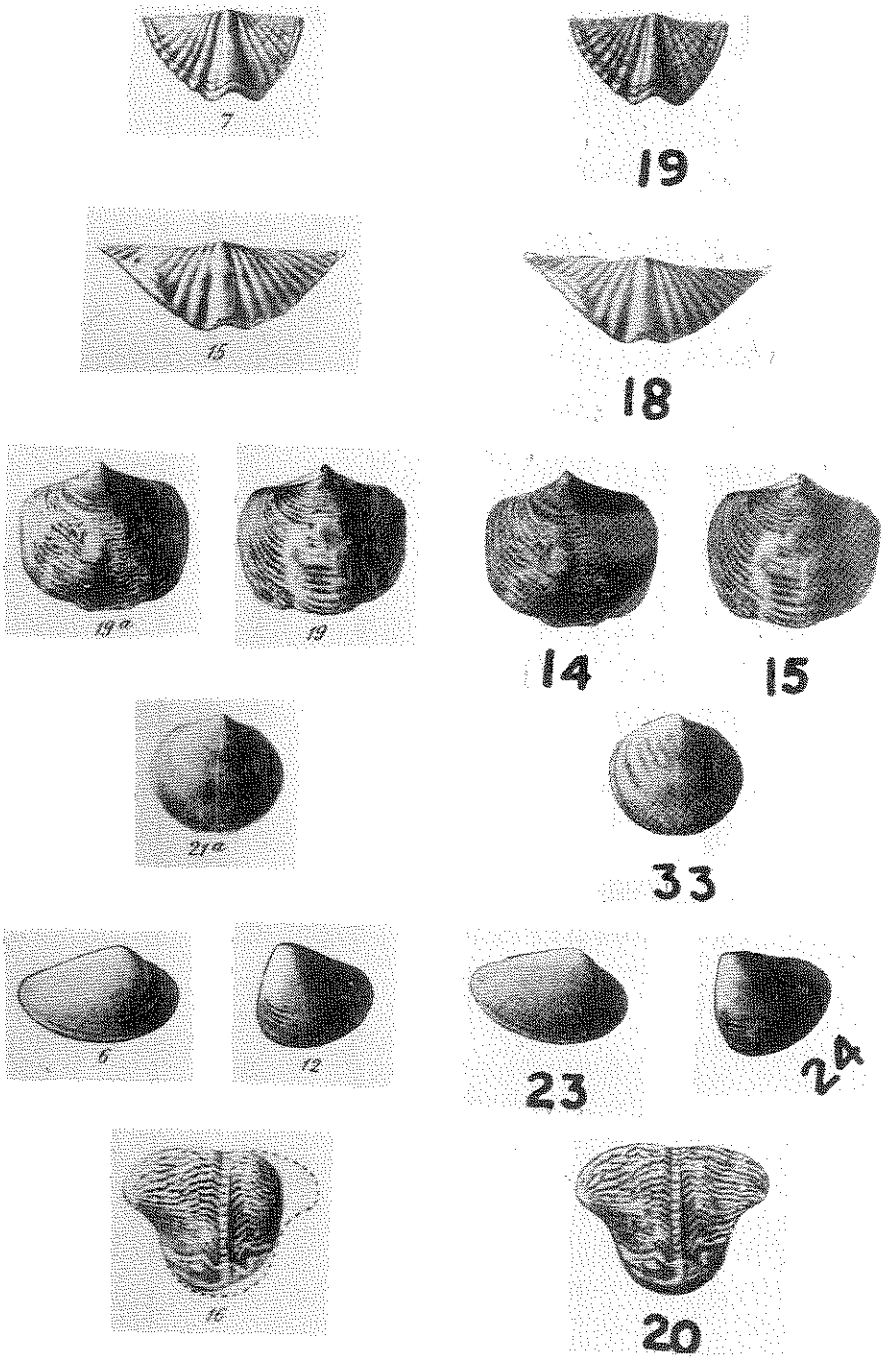

Figure 3. Comparison of photographic illustrations of a fauna from Burma (Reed, 1908) [left] with those used by Gupta (1970) [right] to 'document' a supposed Middle Devonian age for the Muth Quartzite, Kashmir. Original plate and figure numbers are retained. See also Table 4.

TABLE II. Illustrations of Middle Cambrian trilobites (Rasetti 1951) cannibalized to 'document' reports from Kashmir (Gupta 1967, '1971'). Note that Gupta's '1971' paper was not released until many years after 1971 (see Talent *et al.* 1987, p. 41). Magnifications shown by Gupta are incorrect. Illustrations in the two Gupta papers are the same size.

Rasetti 1951 Mt. Stephen, British Columbia [Smith. Misc. Publ. **116**(5)]			Gupta 1967 'Zachaldor, Baramula District, Kashmir' [Res. Bull. (N.S.) Panjab Uni., **18**(III–IV): 275–277]			Gupta '1971' 'Hundwara, Kashmir' [Publ. Cent. Adv. Stud. Geol. Panjab Univ., **9**]		
Figure	Identification	Mag	Figure	Identification	Mag	Figure	Identification	Mag
Pl. 29 fig. 7	*Ogygopsis klotzi* (Rominger)	× 1	fig. 1	*O. klotzi* Rominger	× 1			
Pl. 29 fig. 8	*O. klotzi* (Rominger)	× 1	fig. 2	*O. klotzi* Rominger	× 1	Pl. 4 fig. 2	*O. klotzi* Rominger	× ½
Pl. 29 fig. 6	*O. klotzi* (Rominger)	× 2	fig. 3	*O. klotzi* Rominger [hypostoma, *not* cranidium!]	× 1			
Pl. 31 fig. 18	*Tonkinella stephensis* Kobayashi	× 4	fig. 4	*T. stephensis* Kobayashi	× 1	Pl. 1 fig. 1	*T. stephensis* Kobayashi	× 1
Pl. 21 fig. 3	*O. klotzi* (Rominger)	× 1	fig. 5	*O. klotzi* Rominger	× 1	Pl. 4 fig. 3	*O. klotzi* Rominger	× ½
Pl. 11 fig. 15	*Wenkchemnia sulcata* n. sp.	× 3	fig. 8	*W. sulcatus* [*sic!*] Rasetti	× 1	Pl. 4 fig. 9	*W. sulcatus* [*sic!*] Rasetti	× ½
Pl. 12 fig. 5	*O. klotzi* (Rominger)	× 1	fig. 9	*O. klotzi* Rominger	× 1	Pl. 4 fig. 8	*O. klotzi* Rominger	× ½

TABLE III. Illustrations of Late Ordovician/Early Silurian fossils from the Central Himalayas (Reed 1912a) cannibalized to 'document' supposed Lower Devonian (!) faunas from SE Kashmir (Gupta 1969b).

Reed 1912a Kinnaur, Spiti and Niti [Palaeontologia Indica ser. 15, 7 (2)]			Gupta 1969b 'Gudramer/Gulgaldar, Kashmir' [Res. Bull. (N.S.) Panjab Univ. **20** (III-IV): 391–404]	
Figure	Indentification	Locality	Figure	Identification
Pl. 18 fig. 1	*F. spitiensis* Reed	Lipak R., Kinnaur	6	*Favosites gothlandicus* Lamarck
Pl. 17 fig. 9	*F. spitiensis* Reed	Gyetzan, Spiti	7	*F. spitiensis* Reed
Pl. 18 fig. 2	*F. spitiensis* Reed	Lipak R.	8	*F. spitiensis* Reed
Pl. 17 fig. 12	*F. spitiensis* Reed	Lipak R.	9	?*Heliolites* sp.
Pl. 17 fig. 8	*Stylarea kanaurensis* Reed	Lipak R.	10	*Stylarea* sp.
Pl. 8 fig. 1	*Rafinesquina lineatissima* (Salter)	Damchan	18	*Rafinesquina lineatissima*? Salter

TABLE IV. Illustrations of Eifelian (Middle Devonian) fossils from Burma (Reed 1908) plagiarized to 'document' a supposed Middle Devonian age for the Muth Quartzite. In addition, the illustration of an Ordovician brachiopod figured by Reed (1912a, Pl. V, fig. 2) as *Leptaena trachealis* (Salter) from Niti was called *L. rhomboidalis* Wickens by Gupta (1970, Fig. 58) and included with his 'Muth fauna'.

Reed 1908 North Shan States, Burma [Palaeontologia Indica (n.s.) **2**(5)]		Gupta 1970 '1 mile north of Naubug, Kashmir' [Res. Bull. (N.S.) Panjab Uni. **21** (I–II): 1–22]	
Figure	Identification	Figure	Identification
Pl. 16 fig. 7	*Cyrtina heteroclita* Defrance	19	*Cyrtina* aff. *heteroclita* Defrance
Pl. 16 fig. 15	*C. heteroclita* aff. var. *multiplicata* Davidson	18	*C.* aff. *heteroclita* Defrance
Pl. 16 fig. 19a, 19	*Athyris concentrica* (von Buch)	14, 15	*Athyris* cf. *concentrica* von Buch
Pl. 16 fig. 21a	*Nucleospira lens* (Schnur)	33	*Pleciatrypa* sp.
Pl. 20 fig. 6	*Palaeoneilo* cf. *plana* Hall	23	*Bellerophon shanensis* Reed [a bivalve!]
Pl. 20 fig. 12	*Nucula* aff. *niotica* Hall	24	*Nucula niotica* Hall
Pl. 20 fig. 16	*Bellerophon shanensis* sp. nov.	20	*Bellerophon shanensis* Reed

of uninviting materials – from Kashmir indeed, but not of the age asserted! Incidentally, much better quality material than that figured by Gupta can be readily obtained at Gugaldar.

SPURIOUS/PHANTOM LOCALITIES

At the time of writing the first statement on the Himalayan irregularities (Talent *et al.* 1988), only 5 of Gupta's localities were known from field observations

to be spurious: the Gugaldar graptolite and Muth localities, the *Melocrinites* and 'North Evans' conodont localities (on Phulchauki in Nepal, and the site indicated as source of Gupta's 'Bijni' Permian fauna. Many more were flagged (Talent *et al.* 1988) as obviously spurious or highly suspect because of evidence of inappropriate stratigraphy or the biogeographically bizarre nature of the items reported. Field observations at various times by more than 20 people – e.g. A. D. Ahluwalia, U. K. Bassi, O. N. Bhargava, R. S. Chaturvedi, P. J. Conaghan, G. Dongol, R. K. Goel, P. Janvier, B. L. Kaul, J. Munthe, N. G. K. Nair, C. McA. Powell, S. K. Shah, S. V. Srikantia, J. A., J. G. and R. C. Talent, R. M. West and by M. Gaetani and the members of his Ladakh expeditions have now confirmed that 18 Gupta 'localities' are spurious, 5 of them in Nepal. An additional 19 localities have been flagged as spurious or highly suspect but have yet to be checked in the field. There are, in addition, numerous localities where, at the very least, 'data-switching' has occurred (cf. Talent *et al.* 1989), or where the materials appear to be Indian in origin and the stratigraphic context broadly appropriate, but where the collections may well have come from another site or sites.

Six field seasons of geological mapping in the Zanskar region of Ladakh led by one of us (M.G.), or by smaller parties, has demonstrated the incredibility of several Gupta reports. The report of Cambrian trilobites of Bohemian biogeographic affinities (and preservational similarities) from the Luneak valley of Zanskar (Gupta and Shaw, 1982) is out of kilter with the sheared Cambrian trilobites of distinctly China–Australian affinities obtained in the course of this mapping (Whittington, 1986). The absence of marine Ordovician or Silurian in the entire area confirms the unacceptability of the report of trilobites of those ages (Gupta and Shaw, 1982) flagged as dubious on biogeographic grounds (Talent *et al.* 1988). Likewise, failure to find fusulinid limestones anywhere in the northwest Lahaul-southeast Zanskar area is in line with the contention that the report of Permian fusulinids (Gupta and Kahler, 1973) already flagged as biogeographically anomalous (Talent *et al.* 1988), is indeed spurious. That this occurrence was peculiar had, incidentally, been noted by Kahler (1974). In the summer of 1989, one of us (M.G.) sent a party from Milan University to the area to search specifically for the "Grey to cream coloured thinly bedded limestone, shales and phyllites containing fossils" (Gupta and Waterhouse, 1978, Table 1). They failed to find any stratigraphic intercalation within the Panjal Traps near Tanze. Only tectonic slices with Late Permian brachiopods were found.

There are curious circumstances surrounding the Permian comelicaniid brachiopods said to have been collected in Spiti valley 1.5 km downstream from its junction with the Lingti (Waterhouse and Gupta, 1987). During a meeting of the International Geological Correlation Project 203 in Italy on 26 June, 1986, the party had an opportunity to examine the Permian-Triassic boundary sequence at Sass da Putia. At the horizon rich in *Comelicania*, Dr Renato Posenato of Ferrara University made available to participants specimens of comelicaniids. V. J. Gupta was present. Subsequently a paper on comelicaniids by Waterhouse and Gupta (1987) proposing three new genera and a new family, appeared bearing the imprint June, 1986. Receipt of the journal in Australia at Macquarie University on 6 April, 1987 and at the University of Queensland on 2 June, 1987 is consistent with posting (and technically, the date of publication) having been early in 1987, after the date

indicated by the imprint, and the date of the IGCP 203 excursion. Incidentally, the average lag time for this journal (J. Geol. Soc. India) to arrive in Australia is 3 months. Posenato's (1989) argument for suppression of Waterhouse and Gupta's (1987) genus *Spitispirifer* is convincing: the proposed new genus, seemingly, was based on a misinterpretation of an illustration of Stache (1878, Pl. 2, Fig 24b). Similarly, Waterhouse and Gupta's species, *S. bisulcatus* should be suppressed on the grounds that the diagnostic features they chose for their new species are those common to many species of comelicaniids: transverse shells, moderately well defined ventral sulcus and a narrow dorsal fold divided by a median sinus. Compare, for example, the specimens figured as *Spitispirifer bisulcatus* (Waterhouse and Gupta, 1987, Figs. 1, 2) with Merla's illustrations of *Comelicania vultur* (Stache) (Merla, 1930, Pl. 2, figs. 6a, 6b, 6c, 6d) and *Comelicania megalotis* (Merla, 1930, Pl. 2, fig. 16). In fact, the feature from which the proposed new species takes its name, the sulcus in the dorsal fold, is visible on almost all the species illustrated by Merla (1930). The 'comparative' material supplied by Posenato should have circumvented these taxonomic problems. Comelicaniids, incidentally, have not previously been reported from areas east of the Caucasus and moreover, sediments of an appropriate age for comelicaniids (late Permian, Dorashamian) are not known to occur in Spiti (Bhatt *et al.* 1980). It is an interesting series of coincidences that warrant further investigation.

DATA-SWITCHING EXEMPLIFIED BY TRIASSIC CONODONTS

Gupta's reviews (1983a, 1983b) of the Triassic conodonts of Ladakh and Spiti exemplify a characteristic element of much of his published work: seeming to present data that on closer examination proves to be inconsistent internally and from paper to paper. Despite a verisimilitude of science, such papers are of little or no value to anyone who might care to attempt duplication of Gupta's results.

Instance the samples said to have come from 7 different areas in Ladakh. The specimens are listed in a table (Gupta, 1983a, Table 2) without any indication of which particular section individual samples came from. Also curious are the precise thicknesses quoted for 17 of the 18 lithological units, Scythian to Norian; no thickness was given for the *Hedenstroemia* beds. Are we to assume that none of these units shows any thickening or thinning throughout the vast region embraced by the 7 specified areas? This would be extraordinary, calling for comment. Elsewhere Gupta (1983a, p. 86; and verbatim, 1983b, p. 59) makes the curious comment that without megafossils it is difficult to work out precise thicknesses of the stratigraphic units exposed in Ladakh. This is a remarkable *non sequitur*! For us, thicknesses are totally independent of the occurrence of fossils, macro, mega or micro.

As an example of internal inconsistency note that approximately half of a specimen identified as *Gondolella* cf. *hallstattensis* Mosher (Gupta, 1983a, Pl. 4, Fig. 6) and said to be magnified by 100, was illustrated on the same plate, enlarged to about twice the original size, and was asserted to be still magnified by 100 (Gupta, 1983a, Pl. 4, Fig. 4)! Two plates later in the same publication the same specimen

(Gupta, 1983a, Pl. 6, Fig. 3) was depicted *smaller* [though said to be now magnified by 120], and identified unequivocally as *G. hallstattensis*!

As an example of inconsistency from paper to paper, note the divergent coordinates given for Lilang in Spiti in two papers published in the same year (Gupta, 1983a, p. 83; Gupta, 1983b, p. 55).

There are numerous cases of comparable inconsistency between identifications and locality data given in Gupta's papers and identifications of the same specimens in other Gupta papers published at about the same time. As these are too numerous to detail, we exemplify this by means of a sample involving three of Gupta's papers (Table V).

MISUSE OF INTELLECTUAL PROPERTY OF OTHERS

Attention has already been drawn (Talent *et al.* 1988, p. 9) to a case in which pre-publication copies of a manuscript were distributed at a conference and then seem to have formed the basis for a subsequent publication involving V. J. Gupta as co-author.

Agarwal and Singh (1981, p. 114) have pointed out that materials in a postgraduate thesis submitted to the University of Lucknow by N. L. Chhabra in 1977 and sent to an academic (not Gupta) at Panjab University for examination came to be utilized by Gupta (1978) without authorization or acknowledgement. A fuller account of the embarrassing circumstances surrounding this case has yet to be made public.

Gupta's work is shot through with similar lack of acknowledgement of sources. The unsuspecting reader might therefore be lulled into believing that such items provide new but preliminary information emanating from Gupta's laboratory. Agarwal and Singh's (1981) careful analysis of the state of Triassic micropalaeontology in India reveals numerous examples of Gupta's inconsistencies and sloppiness as regards primary facts. They have shown that in numerous reviews of his own work and that of others, Gupta has reported species to be absent from areas from which they were previously reported by him (Gupta) to be present. The case of the Triassic conodonts exemplifies the chaos engendered in almost all areas of Himalayan palaeontology and stratigraphy by Gupta's reports; the result now beggars description.

QUO VADIS?

Gupta's criticisms and defence (Gupta, 1989, 1990; Jayaraman, 1989) have already been confronted (Talent *et al.* 1988; Talent, 1989a, 1990a, 1990b; Ahluwalia, 1989, Bassi, 1989a). His reporting has been demonstrated to have been staggeringly inaccurate and blighted by misinterpretation. Supposedly novel claims in many of his reports have proved to be absurdly wrong or decades out of date. What might appear to be new stratigraphic data in papers often prove to be garbled versions of information published previously by other workers. A verisimilitude of science may have been conveyed, but basic 'facts' vary from publication to publication. Confusion is therefore rife.

Gupta has repeatedly got his key facts wrong. How much of this is deliberate

TABLE V. A selection of inconsistencies (flagged by **bold type-face**) in nomenclature and sample data for Triassic conodonts in three Gupta papers (Gupta and Budurov, 1981; Gupta, 1983a; Gupta, 1983b) published in a short interval of time. Alignment indicates identical specimens used; not all specimens were refigured in Gupta's June 1983 paper. There are major discrepancies in magnifications quoted from paper to paper.

1981: 'near Lilang', Spiti [Geol. Balcanica **11**: 21–26]		**1983**: Ladakh and Spiti [Öst. Akad. Wiss., Schr. Erd. Komm. **5**: 83–92]		**June 1983**: Ladakh and Spiti [Bull. Ind. Geol. Assoc. **16**: 51–62]	
Figure	Identification	Figure	Identification	Figure	Identification
Pl. 2 figs 1, 2	*Gladigondolella tethydis* (Huckriede) **Cu6 [?=Gu6]**, "a 48.7 m thick interval", said to be **Ladinian**	Pl. 2 figs 1, 2	same **Gu4**, lower part of grey **Anisian** limestone, Lilang (Spiti)	Pl. 1 figs 8, 9	same lower part of grey Anisian limestone, Lilang (Spiti)
Pl. 2 figs 3–6, 9	*Paragondolella bifurcata* Budurov and Stefanov **Gu6**, said to be **Ladinian**, precise locality not given	Pl. 2 figs 3–6, 9	same **Gu5**, said to be **Anisian** precise locality not given	Pl. 1 figs 10, 11, 13	same upper part of grey Anisian limestone, Lilang (Spiti)
Pl. 2 figs 7, 8, 12, 13	*Neogondolella* ***Kornuta*** [*sic!*] Budurov and Stefanov **Gu6**, said to be **Ladinian**	Pl. 2 figs 7, 8, 12, 13	***N. cornuta*** Budurov and Stefanov **Gu5**, Lilang (Spiti) said to be **Anisian**	Pl. 1 figs 12, 15	same upper part of grey Anisian limestone, Lilang (Spiti)
Pl. 2 figs 10, 11	*Paragondolella hanbulogi* **Sugar** [*sic!*] and Budurov **Gu6**, said to be **Ladinian**	Pl. 2 figs 10, 11	*P. hanbulogi* **Sudar** and Budurov **Gu5**, Lilang (Spiti) said to be **Anisian**	Pl. 1 fig. 14	same upper part of grey Anisian limestone, Lilang (Spiti)
		Pl. 3 fig. 3	***Gondolella*** *navicula* **Mosher** Ladakh, precise horizon or locality not given	Pl. 2 fig. 3	***Neogondolella*** *navicula* **(Huckriede)** "hard limestone", Uparu section, Ladakh
		Pl. 3 figs 1, 2	*Gondolella polygnathiformis* Budurov and Stefanov "grey limestone (sample No. 4)" **near top of** Lachlung La, Ladakh, said to be **Carnian**	Pl. 2 figs 1, 2	same "**lower units at** Lachlung La", Ladakh, said to be **Norian**
		Pl. 3 fig. 6	*Gondolella* **cf. *foliata*** Budurov Ladakh, precise horizon or locality not given	Pl. 2 fig. 4	*Gondolella* **sp.** Ladakh, precise horizon or locality not given

or may be attributed to recklessness, ignorance or to sloppiness is unclear. We submit that there is clear evidence in this confusion of ignorance of the basics of geoscience, a dearth of understanding of the scientific method, and an absence of objectivity.

It may be argued that such 'contributions' do not warrant serious attention, but we believe their immediate and long-term implications to be especially disturbing. Injecting disinformation into the geology of the Himalayas, on the grand scale we have identified, has seriously distorted the scientific framework in which major economic decisions have to be made. The results are grotesque; the consequences cannot be ignored. As pointed out previously (Talent *et al.* 1988; Talent, 1989a) there is one connecting link between all the spurious and dubious 'information' we have identified, V. J. Gupta. There are no grounds for assuming any impropriety on the part of any of his co-authors – dozens of them – who accompanied him in the field or, in good faith, provided taxonomic data and illustrations. Some of these, now aware of the general pattern, are placing on record various curious circumstances connected with their joint publications (Lewin, 1989; Ahluwalia, 1989; Bassi, 1989a, 1989b; Bhatia, 1989; Janvier, 1989). Publishers of erstwhile high repute who have put their imprimaturs on Gupta's authored or edited works are perhaps a little less readily excused. Nevertheless, it should be borne in mind that "the trust, even reverence, accorded to scientists by Indian publishers" (Talent, 1989a, p. 615) has been a contributory factor. Doubtless they too assumed that piles of manuscripts placed before them by the author of 5 volumes on Indian stratigraphy, must surely have gone through some process of checking – such as peer review – for reliability of data and logic as to inferences. This appears not to have been the case with the several volumes of Recent Researches in Geology edited by V. J. Gupta and the anything-goes series Contributions to Himalayan Geology. It is however gratifying to note the immediate response of this journal to criticism levelled against past editorial practices (Radhakrishna, 1989).

Regrettably, over the past 25 years, a cornucopia of disinformation was poured into the geology of the Himalayas (Talent *et al.* 1988, 1989; Talent, 1989a; Lewin, 1989; Ahluwalia, 1989; Bassi, 1989a, 1989b; Bhatia, 1989; Janvier, 1989). The scale was indeed vast – in at least 405 publications involving 117 co-authors (56 foreign, 61 Indian) and including 6 books. One may be excused for concluding that an entirely artificial Himalayan geology was being systematically generated using largely spurious information, a universe having parallels with the mediaeval bestiaries, hallucinatory tales, and accounts of incredible voyages to lands populated by goblins, vampires and will-o'-the-wisps! It seems nevertheless that the construction of this artificial universe was capricious, unplanned, even at times comical (Talent, 1989b). New 'data' and, through them, new structures, were obtained by chance and added willynilly to the continually growing, unruly structure – so unruly and so vast that fellow earth scientists, inevitably specialized, remained unaware of its true dimensions.

Clearly, in view of the irregularities in Himalayan geology identified here, and previously documented, a major exercise is necessary to delineate just where reality and truth might lie. Until the facts are established it would seem advisable to doubt the rigour and even the factual content of any work bearing the name of V. J. Gupta among its authors.

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