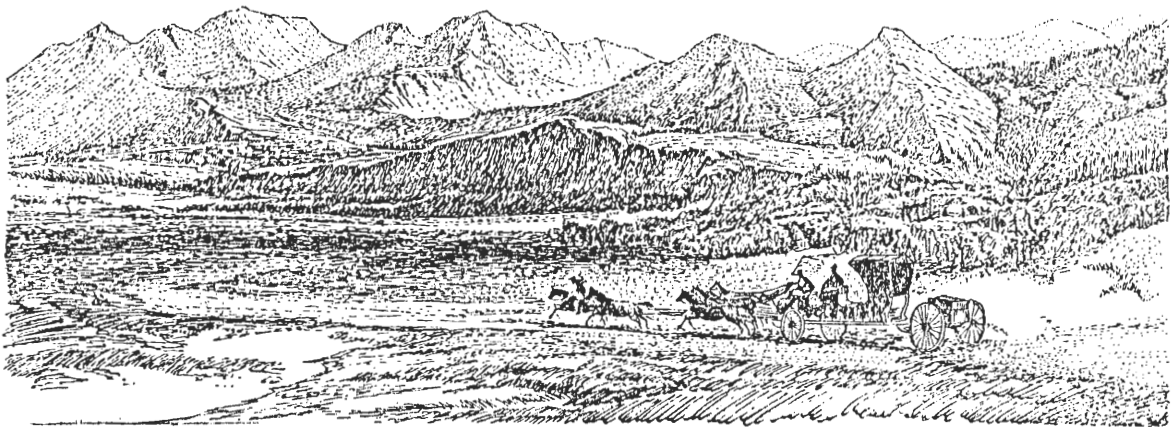


Permaphiles



NO 12 November, 1987

A NEWSLETTER OF SCPS



The Gurmaya Hills S. Ural
after Murchison et al., 1846

SUBCOMMISSION ON PERMIAN STRATIGRAPHY

INTERNATIONAL COMMISSION ON STRATIGRAPHY

INTERNATIONAL UNION OF GEOLOGICAL SCIENCES (IUGS)

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EDITORIAL

The issue for this January has not been completed as originally scheduled since I was busily involved in organizing work of the XIth Carboniferous Congress. Some of materials collected for publication in that issue are included herein with my hope that they will still interest the readers after a long delay.

Three correlation charts of Permian sequences are selected to be made public in this issue. All readers, members of the subcommission and non-members, are cordially invited to give their comments on these charts. Besides, any other personal view on Permian stratigraphy as well as matters concerning SCPS are sincerely welcome. The letter will be published in the coming issue without changing its content if necessary.

ACTIVITIES OF SCPS DURING THE XITH-ICC IN BEIJING 1987

Business Meeting of SCPS

The business meeting of SCPS was held at 8 pm. in Beijing Science Hall Beijing on Sept. 1. Prof. Sheng Jinzhang and Dr. Dickins presided over the meeting. Present at which were Titular Members Drs R.E. Grant, G. Kotlyar, Ch. Ross, Jin Yugan and Zhan Lipei; Corresponding Members J.W. Cowie, B.I. Chuvashov, E, H. Gilmour, K. Johnson, Ch. Virgili, J. Utting and Liao Zhuoting.

Six items were suggested by the bureau of subcommission for consideration.

a. Dr. Jin Yugan was instructed to make general report on activities of the subcommission. He gave a brief account of organizing process of an international committee on Upper Permian correlation charts and a new working group on Carboniferous-Permian boundary. Talking about the Newsletter he invited member to contribute more papers or informations. To comply with his request for recommending new members, two colleagues were nominated, for further consideration.

b. It was noted that the International Committee on Correlation charts has been doing pretty well. All charts will be put together into a single map-sheet and circulated for discussion at a meeting scheduled during the 28th ICS in Washington D.C.

c. It was agreed to nominate Drs. Wu Wangshi and B.I. Chuvashov as the new International Working Group on Carboniferous-Permian Boundary in place of Dr. Ross who is now too busy to manage this group. Both of them promised to take over the position and would reorganize the group.

d. A nominating committee for the new officers of SCPS was unanimously passed. It consists of the following personnel: Prof. Sheng Jinzhang, Dr. M. Dickins and Dr. Jin Yugan. A call for nomination of new officers is to be given in the new

issue of Newsletter.

e. On the recommendation of the chairmen, the next business meeting will be held in Washington D.C. during the 28th IGC 1989.

f. Other items

Dr. Ross suggested to have summary of his paper on sea level change corresponding with stages of the Late Permian published in the Newsletter. That paper will come out in Cushman Foundation Publications.

Meeting adjourned at 9:50 pm.

Meeting for organizing the International Working Group on Carboniferous-Permian Boundary

This meeting was held in Beijing Science Hall on September 2 at 7:30 pm

Dr. Dickins called the meeting to order, then Dr. Wu Wangshi chaired it.

Present at the meeting were B.J. Chuvashov, J.W. Cowie, H.D. Dahm, M. Dickins, E.M. Gilmour, R. E. Grant, Ch. Henderson, M. Horn, H. Igo, Y.G. Jin, Z.T. Liao, K. Nakamura, E.D. Plein, L. Rui, J. Z. Sheng, J. Utting, Ch. Y. Wang, R. Wagner and Z.R. Zhou.

An agenda of three items was proposed by the Chairman.

At first, Dr. Ross was invited to give a report on history of the working group and main results achieved during his tenure as a chairman. Then, it was suggested to nominate a secretary for the working group. Dr. Bruce Wardlaw and three other colleagues were recommended to take this position.

Regarding membership of the working group. Dr. J.W. Cowie, on behalf of Bureau of ICS emphasized that members should come from all areas of the world. A long discussion ensued on how many members there should be in the working group from each country, after which an initial list of nominees was worked out. Among them are N.W. Archbold (Australia), M.V. Durante (U.S.S.R.), C. Handerson (Canada), Rucha Ingrat (Thailand),

S. Loboziak (France), Rui Lin (China), Ch. A. Ross (U.S.A.), J. Utting (Canada) and J. Yanagida (Japan).

At last, Dr. Chuvashov gave a report on the Carboniferous-Permian boundary in the Soviet Union.

The meeting was closed at 10 pm.

Meeting of International Committee on Correlation of Upper Permian

This Committee was organized during the International Symposium on Permian and Triassic of Southern Alps in Brescia, Italy. It consists of six working groups on correlation of regional Permian at present, headed respectively by Dr. J.M. Dickins (Australia), Dr. Jin Yugan (China), Dr. G. Kotlyar (USSR), Dr. R.E. Grant (USA), Prof. N. Nakamura (Japan) and Dr. Ramoves (Southern Alps). Members of the committee were asked to send their draft charts for circulation towards the end of last year.

Five charts were presented for discussing at the meeting on Sept. 1. Among the attendants are Dr. Dickins, Dr. Grant, Dr. Jin Yugan, Dr. Kotlyar, Prof. Nakamura and Prof. Sheng Jinzhang. No agreement was reached on two-or threefold subdivision of the Permian. Five stages i.e. Kungurian Ufimian, Kazanian, Zhulfian and Changhsinian, are essentially agreed assuming that the base of Kungurian is taken as the lower boundary of Upper Permian. Charts are needed to be further elaborated and then put together as a single chart which will be discussed at a meeting during the 28th IGC in Washington D.C. All charts will be published together with a detailed explanation after the 28th IGC.

SAN ANTONIO G.S.A. MEETING; NOVEMBER 11, 1986

Brain F. Glenister

A small group of North American students of the Permian met in San Antonio in response to my memorandum of September 19 soliciting a beginning to a North American consensus on Permian correlations. In attendance were:

W. R. Danner, British Columbia
W. M. Furnish, Iowa
Brian F. Glenister, Iowa
Maurice Kaasa, Texas A&M
Claude Spinoso, Boise State
Walter Sweet, Ohio State
Hushang Taraz, Nicolls State
Tom Yancey, Texas A&M
Yang Zhendong, Texas A&M

Many of the active North American workers were unable to attend, including Dick Grant. Written commentaries expressing general approval of the September 19 draft consensus (reproduced herein) were received from D. L. Clark (Wisconsin) and Keith Rigby (B.Y.U). The following three additional communications were reported to the meeting:

a) Walter W. Nassichuk (Geological Survey of Canada) responded with a long and thoughtful letter, much of which will be reproduced in a subsequent Newsletter of the Subcommittee on Permian Stratigraphy. He concluded as follows: "-----I do not agree with preparing a consensus position for North America: rather, 'correlation charts' summarized to show varying points of view are preferable. Nevertheless, the points you have outlined in the draft are excellent for general discussion. I think that the threefold division of the Permian is sensible but will not 'vote' in favor of 'Guadalupian' until I understand the Pamirs sequence for instance, considerably better than I do. I think we in North America should have a symposium-style review of the Permian of North America with a focus on the Guadalupian and review all available ammonoid, brachiopod, conodont, bivalve etc. data to see if the Wordian and Capitanian are sensible standard references for 'Middle Permian'.

b) Walter Sweet gave a verbal summary of recent deliberations of the Working Group on the Permo-Triassic Boundary. He noted that a 'straw vote' in Moscow followed by a written vote during the past northern summer revealed almost unanimous support for the definition of the erathem boundary as the base of the *Otoceras* Zone. Guryal Ravine was similarly favored as the stratotype.

c) Norman D. Newell (American Museum of Natural History) forwarded two letters lucidly supporting his long-held view that the base of the Triassic should be defined at a higher level than that commonly accepted. The following is his abstract of a paper now in press: "A natural boundary that exists between the Paleozoic and Mesozoic Erathems reflects one of the great events of geologic history -- a mass extinction of extraordinary severity. The conventional Perm-Triassic boundary at the zone of the ammonoid *Otoceras* should coincide with the erathem boundary but it does not. This discrepancy is explained herein and a suggestion made for a simple adjustment that could greatly reduce confusion about the Permo-Triassic boundary and improve the accuracy of correlations. The proposal is to draw a new Permo-Triassic boundary at the top, rather than the base, of the Griesbachian Stage." Walter Sweet noted at the meeting that he is inclined to support Newell's proposal on practical grounds, as it allows for finer correlation.

The Friends of the Permian present at the San Antonio meeting then reviewed the following draft proposal circulated in Brian Glenister's memorandum of September 19:

- 1) Hiatuses in the Wolfcampian-Leonardian successions of the North American Southwest make them unsatisfactory as body stratotypes for the Lower Permian. However, abundant and diverse biotas permit confident correlation with potential stratotypes of the Southern Urals [lower boundary, and Asselian through Artinskian (Baigendzhinian Substage)].
- 2) The Guadalupian *sensu stricto* of the American Southwest is the most nearly complete "middle" Permian succession, and most of the diverse fossil groups represented are fairly adequately documented. This is in marked contrast to the Kazanian and younger Permian of the Russian Platform. The Guadalupian deserves sponsorship for the "middle" Permian stratotype.
- 3) Post-Guadalupian strata of North America afford no basis for a standard reference, and candidates in Iran (Abadehian-Dzhulfian) and South China (Changhsingian and the Erathem boundary) are favored. Relationship of the Guadalupian to the younger Permian stages may be discernible through the sections in Coahuila.
- 4) The latest-Permian hiatus in the North American Arctic, plus the paucity and low diversity of fossils in the type Griesbachian render the Canadian Arctic unsatisfactory for selection as body stratotype for earliest Triassic.

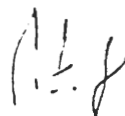
Each of these four points was considered separately, and each subsequently received unanimous approval of those present. It was noted that this represents the tentative views of a small group, and does not necessarily reflect a North American consensus.

The San Antonio Friends then discussed and unanimously accepted the following proposals, moved "from the floor":

- 5) The base of the Triassic should continue to be defined as the base of the *Otoceras* Zone.

6) The group wishes to reserve judgment on selection of a boundary stratotype. Again, these do not necessarily reflect a North American consensus.

As a final business item, the San Antonio Friends meeting considered the feasibility of a field trip to the classic middle Permian sections in the Glass Mountains and Guadalupe area. Tom Yancey is prepared to arrange logistic support and facilitate entry to private properties. He suggests that the trip originate and end in El Paso, and that dates be selected in the interval March 22 - April 30, 1987. Please call (409-845-2451) or write to him before January 31 indicating your interest in attending such a trip, dates that you are available, and sections you wish to visit.

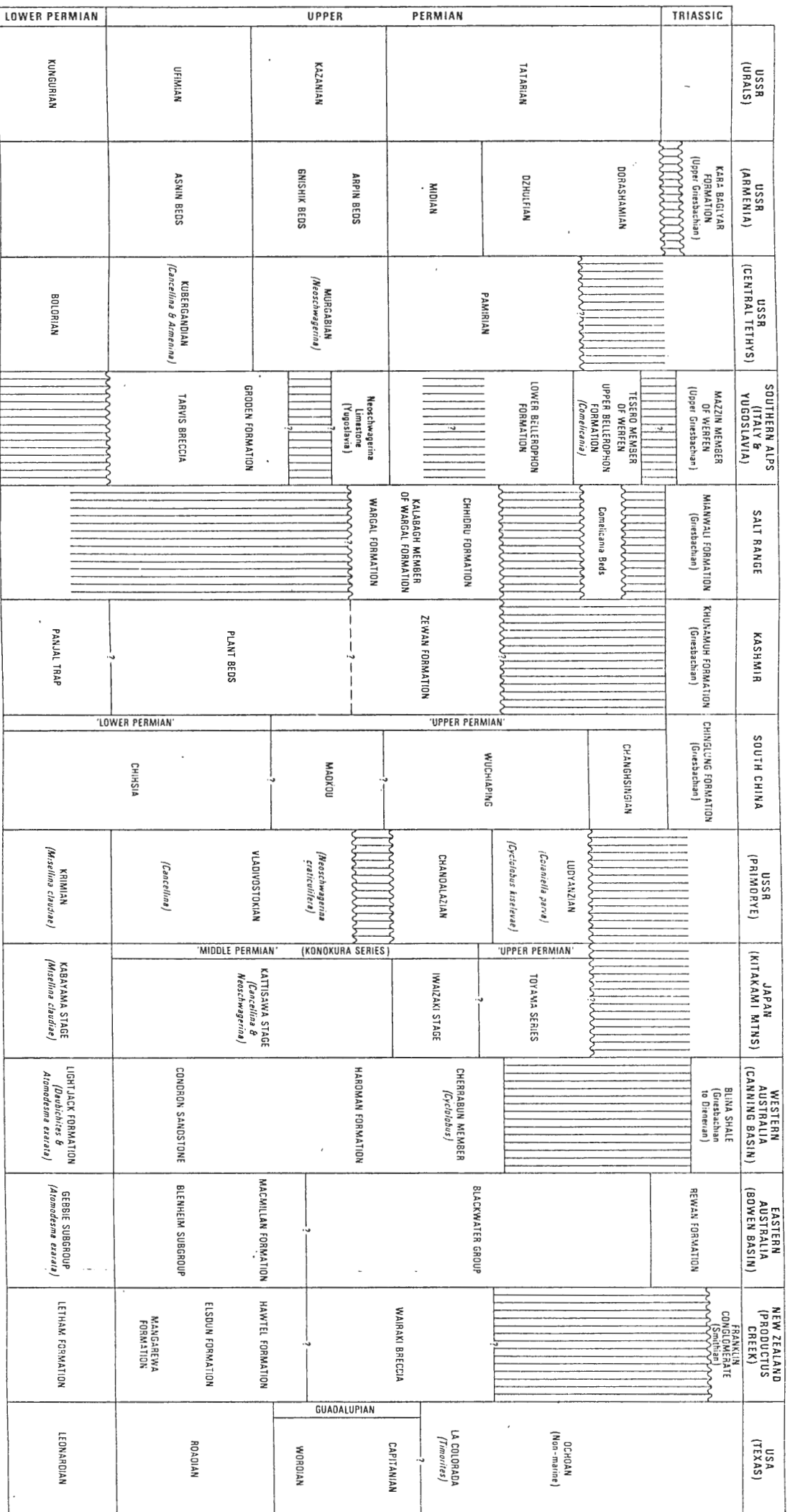
A handwritten signature in black ink, appearing to be 'T. Yancey', located below the main text block.

Correlation charts of the Upper Permian
J.M. Dickens

Chart A

LOWER PERMIAN		UPPER PERMIAN																									
USSR (URALS-RUSSIAN PLATFORM)	USSR (SOVIET ARMENIA)	USSR (ARMENIA)	WESTERN AUSTRALIA (CARBONIFEROUS BASIN)	WESTERN AUSTRALIA (CANNING BASIN)	EASTERN AUSTRALIA (BOWEN BASIN)	NEW ZEALAND (PRODUCTUS CREEK)	PAKISTAN (SALT RANGE)	UNITED STATES (GREAT BASIN, FORDY MOUNTAINS)	UNITED STATES (SOUTH WEST)	SPITZBERGEN	GREENLAND	ARCTIC CANADA (KANGAS ISLAND)	ARCTIC CANADA (DIXON ISLAND, BRINELL PENINSULA)	ARCTIC CANADA (NORTHERN YUKON)	EAST CENTRAL ALASKA												
																DZHEZGAN	HARDMAN FORMATION	BLACKWATER GROUP	MABAKI ERKICIA ?	CHIROBU FORMATION	PRINCE-OF-PAK CITY	CAPTANIAN	RED STRIAS	MARTINA LIMESTONE (WITH GOOD MASSIFERS)	BRACHYPOD BEDS	CAMMELLOIDES ZONE	TAHKANOIT LIMESTONE
KAZANIAN	ARPIN BEGS	ONISHK BEGS	CONDON SANDSTONE	BLINHEM SUBGROUP	HAYTELL FORMATION	ESDOU FORMATION	MANGARAWA FORMATION	MESOBIAN SHEPHERD GRANDER MEMBER	WORDIAN	KAPP STRATON FORMATION (ALL OR PART OF UPPER PERMIAN SHALES)	PRODUCTUS LIMESTONE & LIMESTONE & LIMESTONE	ASSISTANCE FORMATION	THAMOSIA ZONE	SANDSTONE UNIT													
															URVIAN	ASIN BEGS											
KUVORSKIAN	COOLICHA SANDSTONE	BAKER FORMATION	MALEH SANDSTONE	LIGHT-LOCK FORMATION	GEESE SUBGROUP	LETHIAN FORMATION	MAB FORMATION	LOWER PERMIAN PENNSYLVANIAN OR OLDER ROCKS	LEONARDIAN																		

Chart B



NOTES

1. The classical twofold subdivision of the Permian is followed here. If the base of the Midian is made to coincide with the top of the Kazanian, then a fairly ready threefold division would be possible with the Ufimian and Kazanian and equivalents corresponding to the Middle Permian and the Midian, Dzhulfian Dorashamian (or Changhsingian) corresponding to the Upper Permian and the Tatarian.
2. Although the Ufimian in its type region has only a very poorly developed marine fauna, it seems increasingly possible to recognize a marine fauna in many parts of the world (particularly from the brachopods and bivalves) which is post-Kungurian and pre-Kazanian. Similarly it has been increasingly possible to recognize the Kazanian in many parts of the world.
3. Whether the *Araxilevis-Condonofusiella* beds of the Armenian sequence are placed as the basal part of the Dzhulfian or in the Midian is of considerable consequence as apparently these beds correspond to the highest horizon of Cyclolobus (Zakharov pers. comm.)
4. The position of the *Neoschwagerina* Limestone in the sequence of the Southern Alps is not clear. Alternatively it could be equivalent to part of the Groden or on the other hand to the Lower Bellerophon.

The Lower Griesbachian, as inferred in the chart, is represented either by a hiatus or by the lower part of the Mazzin Member which is poorly fossiliferous, or possibly the Changhsingian and the Griesbächian overlap as was argued by some participants in the IGCP 203 Permian-Triassic Working Meeting at Brescia, Italy,

July, 1986. Positive evidence for the latter is, however, lacking.

5. The limestone lenses with the Comelicania fauna in the Salt Range have been placed in the Kathwai Member at the base of Mianwali Formation. My field examination suggested the possibility of a break above the Comelicania Beds as shown in the table. This is consistent with the evidence of the Pakistani-Japanese Research Group (Nakazawa and Dickins, 1985, p.264) showing that the Comelicania Fauna and Ophiceras did not occur at the same level.
6. In Nakazawa and Kapoor, 1981, it is concluded that the upper part of the Zewan Formation is equivalent in age to the upper part of the Chhidru Formation (both contain Cyclolobus).
The evidence for this in the volume is massive. From my examination of this material in Calcutta, I support this conclusion. Furthermore, however, I cannot recognize in this sequence any fauna equivalent to upper Dzhulfian or Dorashamian. The brachiopods from Khunamuh El seems to be the same species as in the Zewan and in some specimens have matrix adhering of the Zewan type quite different to the fine grained lithology of the Khunamuh. The bivalves from El are, however, distinctive and could be Griesbachian. If the brachiopods are derived then El can be placed with the rest of the Khunamuh Formation with which lithogenetically it belongs.
7. Note the usage of Lower and Upper Permian by Chinese colleagues, and the usage of Lower, Middle and Upper Permian in Japan.
8. For New Zealand the Productus Creek sequence is shown as it is the only known sequence is showing superpositional relationships for a significant part of the Permian. Some reservation is, however, necessary because of possible large faulting (Campbell,

pers. comm.). The correlation is based on my examination of the faunas and on published work.

9. The position of the Roadian is based on unpublished work by Archbold and Dickins. This suggests the Roadian is wholly, or less likely, partly Upper Permian (i.e. post-Kungurian). In this case, an Upper Permian age for the Kapp Starostin Formation of Spitzbergen would be consistent.

Correlation charts of the Upper Permian
the Japanese Working Group

Dear Colleague:

Please excuse my long delay in sending a correlation chart for the Upper Permian. This correlation chart is prepared by the Japanese Working Group which has been tentatively organized and the members are;

Ken-ichi ISHII (Kobe University)

Makoto KATO (Hokkaido University)

Tetsuo MATSUDA (Osaka City University)

Koji NAKAMURA (Hokkaido University)

Keiji NAKAZAWA (Kinki University)

Yuji OKIMURA (Hiroshima University)

Tomoo OZAWA (Hyogo University of Education)

Akira YAO (Osaka City University).

Some explanatory notes are also prepared by the J.W.G. and I am enclosing them herewith. We should be most appreciated to have any comments you may wish to make regarding the correlation chart and notes.

Yours sincerely,

Koji Nakamura

Koji Nakamura

J A P A N

				AKIYOSHI		MAIZURU		AKASAKA		SOUTHERN KITAKAMI		PRIMORYE		TEXAS									
Akiyoshi Limestone						Maizuru Group		Akasaka Limestone		Sakamotozawa Series													
<p><i>Pseudofusulina ambigua</i></p> <p><i>Parafusulina kaerimizuensis</i></p> <p><i>Neoschwagerina margaritae</i></p> <p><i>Verbeekina verbeeki</i></p> <p><i>Neoschwagerina craticulifera</i></p>						<p>Upper</p> <p><i>Gujocardita palaeof.</i></p> <p><i>Iopingia aff. sinensis</i></p> <p><i>Colani. parva</i></p>		<p>"Palaeofusulina" (=Nanlingella?)</p> <p><i>Shikamaya Yabeina globosa</i></p> <p><i>Neoschwagerina margaritae</i></p> <p><i>Neoschwagerina craticulifera</i></p> <p><i>Cancellina nipponica</i></p> <p><i>Cancellina primigena</i></p>		<p>Toyoma Series</p> <p>Maehama Stage</p> <p><i>Araxoceras cf. kyangsiense</i></p> <p><i>Protoceras</i></p> <p><i>Lepid. kumaensis</i></p> <p><i>Colaniella</i></p> <p><i>Lepidolina multiseptata</i></p>		<p>Kanokura Series</p> <p>Kattisawa Stage</p> <p><i>Monodioxodina matsubaiishi</i></p> <p><i>Reticulatia huocoensis</i></p> <p><i>Misel. claudiae</i></p> <p><i>Pseudofusulina ambigua</i></p> <p><i>Pseudofusulina fusiformis</i></p>		<p>Chandalazian</p> <p><i>Metadoliolina lepida</i></p> <p><i>Parafusulina stricta</i></p> <p><i>Monodioxo. sutchanica</i></p>		<p>Ludyanzian</p> <p><i>Eusanjangites bandoi</i></p> <p><i>Cyclolobus kiselevae</i></p> <p><i>Iranites?</i></p>		<p>Vladivostokian</p> <p><i>Neoschwagerina cratic.</i></p> <p><i>Cancell. zarode.</i></p>		<p>Guadalupian</p> <p>Wordian</p> <p><i>Maagenophyllum</i></p> <p><i>Parafusulina</i></p> <p><i>Skinneria</i></p> <p><i>Perrinites</i></p>		<p>La</p> <p><i>Reichelina</i></p> <p><i>Paraboultonia</i></p> <p><i>Polydioxodina</i></p> <p><i>Colorada</i></p> <p>Ochoan</p>	
				Low.		Middle				Kabayama Stage		Iwaizaki St.		Mabekoshi St.									
				<p><i>Lophophylloid coral ?</i></p>		<p><i>Lepido. kumaensis</i></p> <p><i>minima</i></p> <p><i>Colaniella</i></p> <p><i>Nanlingella simplex</i></p>				<p>Kabayama Stage</p> <p><i>Misel. claudiae</i></p> <p><i>Pseudofusulina ambigua</i></p> <p><i>Pseudofusulina fusiformis</i></p>		<p>Iwaizaki St.</p> <p><i>Lepid. kumaensis</i></p> <p><i>Colaniella</i></p> <p><i>Lepidolina multiseptata</i></p> <p><i>Leptodus nobilis</i></p>		<p>Mabekoshi St.</p> <p><i>Neo-geoceras parva</i></p> <p><i>Cyclolobus Palaeof.</i></p>									

KUNGURIAN		UFIMIAN		KAZANIAN		TATARIAN							
KUNGURIAN		UFIMIAN				KAZ.	TATARIAN						
BOLORIAN		KUBERGAND.		MURGABIAN		MIDIAN			DZHULFIAN		CHANGHSIN. (DORASHAM.)		
Dabaly		Asnin		Gnishik	Arpin	Khachik			Dzhulfa		Dorasham		
<i>Misellina parvicostata</i>		<i>Cancell. armenica</i> <i>C. armaschensis</i> <i>Misellina Armenia</i>		<i>Praesumatrina neoschwagerinoides</i>	<i>Neosch. cheni</i> <i>Eopolugd. persica</i>	<i>Sumatrina annae</i>	<i>Orientosch. abichi</i>	<i>Chusenella minuta</i>	<i>Araxoceras latissimum</i>	<i>Vedioceras ventrosulcatum</i>	<i>Paratritolites Shevrevites</i> <i>Dzhulfites Iranites</i> <i>Phisonites</i>		
Surmaq Formation						Abadeh Fm.		Ilambast Formation					
1						3		6		7		7	
<i>Eopolugdioxodina douglasi</i>						<i>Oriento. abichi</i>		<i>Araxoceras</i>		<i>Vedioceras nakamurai</i>		<i>Paratritolites Shevrevites-Paratritolites</i> <i>Shevrevites</i>	
Bolor		Kubergand.		Murgab		Pamir							
<i>Misellina aliciae</i>		<i>Armenina salgirica</i> <i>Misellina ovalis</i>		<i>Neoschwagerina craticulifera</i> <i>Neosch. simplex</i>		<i>Yabeina opima</i> <i>Chusen. ishanensis</i>		<i>Palaeofusulina ex. gr. fusiformis</i> <i>Paradunbaruta simplicata</i>					
Amb Formation				Wargal Fm.		Kalabagh		Chhidru Fm.		Low. unit of Kathwai M.			
				1		5		1					
<i>Glossopteris gangamopteris</i>				<i>Chusenella Sphaerulina</i>		<i>Colaniella minima</i> <i>Reichelina</i> <i>Nanlingella simplex</i>		<i>Cyclolobus xenodiscus</i> <i>Motothyris djoulfensis</i>		<i>Oldhamina</i>		<i>Palaeofusulina minima</i>	
<i>Monodioxodina</i>								2		4			
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ARMENIA

ABADEH

PAMIR

SALT RANGE

KASHMIR

SOUTH CHINA

Notes

1. It is fairly difficult to correlate the Permian of the Tethys with that of the Urals. We are strongly expecting that the Russian colleague will succeed in settling this problem.
2. Nakazawa now has a feeling that there may present a hiatus between E1 and E2 in Kashmir. Such being the case, E1 is correlated to the Upper Dzhulfian with high possibility.
3. Even though Japanese Permian workers are not too well informed about the stratigraphical relation of the Chandalaz and the Vladivostok Formations in Primorye, they are strongly impressed that the lower half of the Chandalaz Formation is equivalent to the Vladivostok Formation.
4. Either twofold or three fold division of the Permian have been indefinitely used in Japan, mainly based on fusulinids as shown in the following table. C is mostly concordant with the threefold division of the Permian sequences (Sakamotozawa, Kanokura and Toyoma Formations from old to younger) on the basis of sedimental cycle in the Southern Kitakami Mountains.

Twofold		Threefold		
A	B	C	D	
Upper	Upper	Upper	Upper	Increase of <u>Codonofusiella</u> and <u>Reichelina</u> Disappearance of <u>Yabeina</u> and <u>Lepidolina</u>
Lower	Upper	Middle	Middle	
Lower	Lower	Middle	Middle	Appearance of <u>Cancellina</u>
Upper	Lower	Lower	Lower	Appearance of <u>Misellina claudiae</u>
Lower	Upper	Lower	Lower	Appearance of <u>Chalaroschwagerina vulgaris</u> Faunule
Lower	Lower	Lower	Lower	

IN MEMORIAM

Sergei Victorovich Meyen (1936-1987)

With the passing away on March 30, this year after a long serious illness, of Dr. S.V. Meyen, we have lost an enthusiastic member, former Vice-Chairman, one of the founders of Subcommittee on Permian Stratigraphy.

Dr. Meyen is one of the prominent palaeobotanists of our times. Having graduated from the Moscow State University in 1958, he started his career at the laboratory of Paleofloristics in the Geological Institute of USSR Academy of Sciences and spent almost 30 years successively studying Upper Paleozoic fossil plants and floras of Angaraland. His scientific style in paleobotany was characterized by the most detailed morphological investigations of fossil plants as well as by the broad implications in phylogeny, phytogeography and stratigraphy. He made an outstanding progress in understanding morphology and taxonomy of such plant groups from Angaraland as cordaites, articulates, lepidophytes, pteridosperms and conifers.

Meyen's vice-doctoral thesis in 1964, titled "Upper Paleozoic Cordaites in Eurasia" gave rise to a change in the cognition of Cordaites plants of Angaraland. Through his deeply inquiring into leaf microstructure of Cordaites by means of new method, and its relations with systematic stratigraphy and phytogeography, he put forward new taxonomic frame and evolutionary system of Cordaites, which formed the biostratigraphical basis of the correlation of Paleozoic continental Angaraland. In the late 1960s, he went on with extensive investigations of Paleozoic phytogeography which resulted in a series of detailed phytogeographic maps included in a book on Paleozoic and Mesozoic floras of Eurasia (Russian edition, 1970). One more contribution he has made to Paleozoic phytogeography is that he redressed historical traditional mistakes about the relation between Angara flora and Gondwana flora, both of which developed independently in different continents

during the time of Paleozoic. His last decade years were spent working on the gymnosperm plants of Angaraland. In 1984 Meyen published a monograph "Basic Features of Gymnosperm Systematics and Phylogeny as Shown by the Fossil Record," which, containing a new original view on the phylogeny and systematic gymnosperms, created a strong resonance throughout paleobotanical world. In the same year a textbook "Principle of Paleobotany" appeared simultaneously in the USSR and England in which main results of his previous work on plant fossils were summarized.

Dr. Meyen took a keen interest in stratigraphy practically and theoretically. In 1974, he published a celebrated paper on theoretical stratigraphy in which emphasis was put on common principles of stratigraphical classification based on different biological and physical evidences. He devoted much of his time and energy to organizing international cooperations among geological communities. He was elected as general secretary of the 8th International Congress of Carboniferous Stratigraphy and Geology in Moscow. It was during that congress that the subcommission was founded and the symposium on Permian stratigraphy initiated a significant thrust which finally led to the official acceptance of the Permian stratigraphy as one of the main topics of the congress held recently.

Dr. Meyen was always full of energy and scientific-minded. His inforgettable affection and humour as well as erudition in many aspects of biological and geological sciences had commanded admiration from people of diverse scientific interests and views. He will be remembered with love and respect by both those who knew him personally and those who only corresponded with him.

ANNUAL REPORT OF THE IUGS SUBCOMMISSION ON PERMIAN

STRATIGRAPHY FOR 1986

MEMBERSHIP

The Titular Membership of the Subcommission remains unchanged since 1984. However, we are preparing a new list of Titular Members to be submitted to the Executive Board of the ISC for consideration. It is hoped that a majority of them will be able to participate in the business meeting of the Subcommission scheduled for September 1987.

There are two newly appointed corresponding members, namely, Dr. J. Lepper (Niedersuchsisches Landesamt für Bodenforschung) and Dr. B.J. Cooper (Dept. of Mines & Energy, S. Australia).

ACTIVITIES

Two international symposia related to the Permian have been held, including the Symposium on Permian and Permian - Triassic Boundary in South Alps organized by the Italian Group of Project 203, IGCP and the Symposium on Late Permian and Triassic in Western Turkey organized by a team of Turkish, French and Swiss geologists. As the Chairman of the Subcommission had called for attention to these occasions beforehand, 17 members of the Subcommission from 14 countries joined the activities of the symposia. Organizers of both symposia have done excellent preparatory work for participants to get acquainted with the stratigraphic problems of the Permian peculiar to the western Tethys. A great deal of very reliable modern information provided will enable the establishment of correlations between the Permian sequences in various areas of the western Tethys and those in other regions of the Tethys.

Thanks to the kind arrangement made by organizers of the Italian symposium, a business meeting of the Subcommission with the participation of 23 members and interested colleagues could be held as scheduled. In order to prepare a series of correlation charts of the Permian over the world for discussion

in a symposium on Permian subdivisions next September in Beijing, a committee was set up at the meeting to include the heads of regional groups. Members of the Committee are accordingly schedule to work out their respective correlation charts and mail them to other members for exchanging opinions by late December. The Executive Bureau of the Subcommittee will deliver a concrete proposal on the subdivision of the Permian based on the synthesis of those charts submitted to the symposium.

At the business meeting, Dr. Wopfner and I separately made a report on the organizing work for the Permian symposia and business meeting of the Subcommittee next September in Beijing, China.

NEWSLETTERS

In 1986, No.11 of the Newsletter on Permian Stratigraphy appeared in May and No.12 is scheduled for December. The Bureau wishes to express its gratitude to Dr. Nassichuk who has edited 7 issues of the Newsletter including No.10 which came out during the current bureau's tenure of office.

FUTURE PLANS

A series of Symposia will be held in conjunction with the XIth ICC in Beijing next year on such topics as: Subdivision of the Permian; Permian sequences of Tethys; and Carboniferous and Permian in Gondwana Land. The aims of these activities are to clarify the biostratigraphic problems

related to the Permian in the Tethyan areas with the most fully developed Permian marine sequences and to make a proposal on the subdivision and correlation of the Permian through discussion.

Reorganization of the Working Group on Carboniferous - Permian Boundary is now still under way. It is anticipated that this group will be formally established during the XI-ICC and then it will convene a symposium on this boundary. This symposium is suggested to put special emphasis on Chinese data.

Other symposia related to the Permian will be roganized by our German colleagues next May, including the Symposium on the Zechstein to be held in Hannover and the Symposium on the Roateligen of Central Europe to be held in Erfurt.

Accounts for 1986

Revenues:

Balance of 1985	\$175
IUGS Grant for 1986	\$500
Total	\$675

Expenditures

Secretariat	\$264
Newsletters	\$458
Total	\$722

Busget for 1987

Secretariat	\$500
Newsletters	\$450
Total	\$950

In 1983, about \$50 overspent was made up by Nanjing

Institute of Geology and Palaeontology. Since the Subcommittee is planning to organize a series of activities, more administrative expenditures will be needed, and therefore we anticipate an increase in the expenditures for 1987.

SPECIAL REQUEST FOR FINANCIAL SUPPORT FROM
MEMBERS OF THE SUBCOMMISSION

The Subcommittee is planning to convene two symposia on Permian stratigraphic problems and to set up a working group on the Carboniferous-Permian Boundary in cooperation with SCCS during the XIth ICC in Beijing. Participation of members who are respectively involved in the projects is most important to the success of these activities. Dr. Kotlyar of USSR, Titular Member of the Subcommittee and head of the Working Group, has been invited to present a correlation chart of the Permian in USSR at the symposium and Dr. Chuvashov of USSR has been nominated as the candidate for the Vice - Chairman of the Working Group on Carboniferous-Permian Boundary. Both have expressed in their letters that they are unable to attend the meeting without full financial aids. An allowance of \$1200 from IUGS is requested to pay their registration fees and living expenses during the Congress.

Jin Yu-gan

Secretary of Subcommittee
on Permian Stratigraphy

NEWS FROM OUR MEMBERS

Replies to Questions of the following:

1. Current researches, including field work and manuscripts in preparation.
2. Papers published in 1985 and those in press.
3. Suggestions and comments on Permian Symposia during the XI-ICC 1987 Beijing and on Working Group of Carboniferous Permian Boundary.
4. Meetings, field trips, etc. scheduled for 1986 related to the Permian in your country.

Dobruskina I.A.

1. My main field is the Triassic and the boundary between the Triassic and Permian. I am studying Lower Triassic plants from Siberia near the boundary with the Permian (Tunguska basin) and Upper Triassic plants from the Alps and Fore Urals and Middle Asia.
2. a. Questions of systematics Triassic lycopsida - *Palaeontolog, Zhurnal*, No 3, 1985,
b. Correlation of the Lower Triassic plants bearing beds of Siberia and China - *Albertiana*, No3, 1985.
c. The relationships between the Triassic floras of Both sides of the Northern Atlantic Ocean (with D. P. Yaroshenko). - III Congresso Latinoamericano de Paleontologia, Mexico. Simposio sobre floras del Triassico tavidio..., *Memoria*, 1985.
d. The Madygen flora (USSR, Middle Asia). *Ibid.*
e. The Permo-Triassic Boundary in continental deposits of Siberia.

H. Lutzner

1. Permian and Upper Carboniferous stratigraphy, sedimentology and basin development in the range of the Variscan orogen on the territory of the German Democratic Republic, in cooperation with M. BARTHEL (palaeobotany) R. BENEK (volcanism), H. HAUBOLD (biostratigraphy, plants, tetrapodes), T. MARTENS (conchostraces, vertebrates), G. KATZUNG (palaeogeography, tectonics), M. MENNING (magnetostratigraphy), J. SCHNEIDER (biostratigraphy, insects, fishes), G. SCHWAB (basin development, tectonics). "Lower" Permian is represented by continental intramontane depression and basin fillings among which are the "classical" Rotliegend occurrences. "Upper" Permian are marine salt-bearing sequences (Zechstein).

Field work in various basins of limited extension will be continued 1986.

2. ELLENBERG, FALK, GRUMBT, LUTZNER; HARFF

Zyklische Sedimentation jungpalaozoischer Molassen. -Z. geol. Wiss. 13 1985. 129-148

BENEK, LUTZNER, SCHWAB (ed.)

Late Palaeozoic and Caenozoic continental sedimentation and magmatism in the southern part of the G.D.R. - Multilateral Cooperation of the Academies of Sciences of the socialist countries, Probl. Comm. IX, Wg. 3.3/3.4 Guidebook meeting May/June 1985. -Potsdam 1085

LUTZNER

Sedimentation rates of Variscan molasse basin in Central Europe (in press). Together with G. SCHWAB and G. KATZUNG we participate in a multilateral working-group of the Academies of Science of the socialist countries on problems of molasse sedimentation. Published materials include a compilation of Permian and Upper Carboniferous sections from the participating countries:

LUTZNER & SCHWAB (ed.)

Tectonic regime of molasse epochs.-

Veröffentlichungen des Zentralinst. Physik der Erds Adw DDR, 66, Potsdam 1982

A second compilation of type-sections is now in preparation.

4. A national meeting of the "Gesellschaft für Geologische Wissenschaften der DDR" concerns Lower Permian (Rotliegendes) in the southern part of the G.D.R. It will be held in October 1986.

An international symposium on Rotliegendes in Central Europe will be prepared by the Central Institute of Physics of the Earth, Academy of Sciences of G.D.R., for May 1987.

W.W. Nassichuk

1. 1986 field work includes investigation of the Permian - Triassic boundary in Axel Heiberg Island, Arctic Canada and Asselian biostratigraphy in Ellesmere Island, Arctic Canada. Several manuscripts are being prepared on both subjects.
2. DAVIES, G.R. and NASSICHUK, W.W. (in press): "Carboniferous to Permian geology of the Sverdrup Basin, Canadian Arctic Archipelago"; DNAG, Inuitian vol., H.P. Trettin (ed.), 30ms pages, 19 figs.

SPINOSA, Claude and NASSICHUK, W.W. (1985): "The Permian ammonoid Uraloceras in North America and its global significance"; Geological Society of America, Abstracts with Programs, 98th Annual Meeting, Orlando, p.724.

DAVIES, G.R. and NASSICHUK, W.W. (in press): "Upper Paleozoic lithofacies of the Sverdrup Basin; Canadian Arctic Archipelago"; Canadian Society of Petroleum Geologists, Abstract in proceedings, Reserves Canada Symposium, Calgary, June 1986.

NASSICHUK, W.W. and HENDERSON, C.M. (in press): "Lower Permian (Asselian) ammonoids and conodonts from the Belcher Channel Formation, southwestern Ellesmere Island"; Geological Survey of Canada Current Research, Paper 86-1B.

3. A symposium on the Carboniferous-Permian boundary is desirable. It is imperative that a formal Working Group on the Carboniferous-Permian boundary be constituted.
4. Field trip 1986: Permian stratigraphy Axel Heiberg and Ellesmere Islands, Canadian Arctic.
Field trip 1986: Permian stratigraphy, northern Yukon Territory, Canada.

Rucha Ingavat

1. Current researches: Carboniferous and Permian Fusulinacean fauna of Thailand, morphologic and biostratigraphic study Permo-Triassic boundary in Thailand indicating by fossils, which collaborated with Japanese paleontologists.
Event controlled evolution of Permian strata in central Thailand (stratigraphy, facies controlled)
Field work: Carboniferous & Permian strata in western central and eastern regions.
Manuscripts in preparation: Compilation of Paleozoic faunas of Thailand for publishing in geology of Thailand 1987
Ingavat-Helmcke, R. and Helmcke, D. (in press); Event controlled evolution on fusulinacean fauna of Thailand.
Contributed for Alfred Wagner Conference, on Bio-events. Gottingen May 1986
2. a. Fontaine, H. and Ingavat, R. (1985): The lower Carboniferous in Thailand. The 10th Congr. Stratigr. Geol. Carbonif. Madrid 1983 vol.1.
b. Ingavat, R. (1985): Review on Fossils of the Northeast, Thailand. Proc. con. Geol. Min. Resources NE Thailand. Khon kaen Nov. 1985.
c. Helmcke, D., Weber, K., Ingavat, R. and Nakornsri, N. (1985): Orogenic Evolution of NE-Thailand during the Upper Paleozoic. ditto