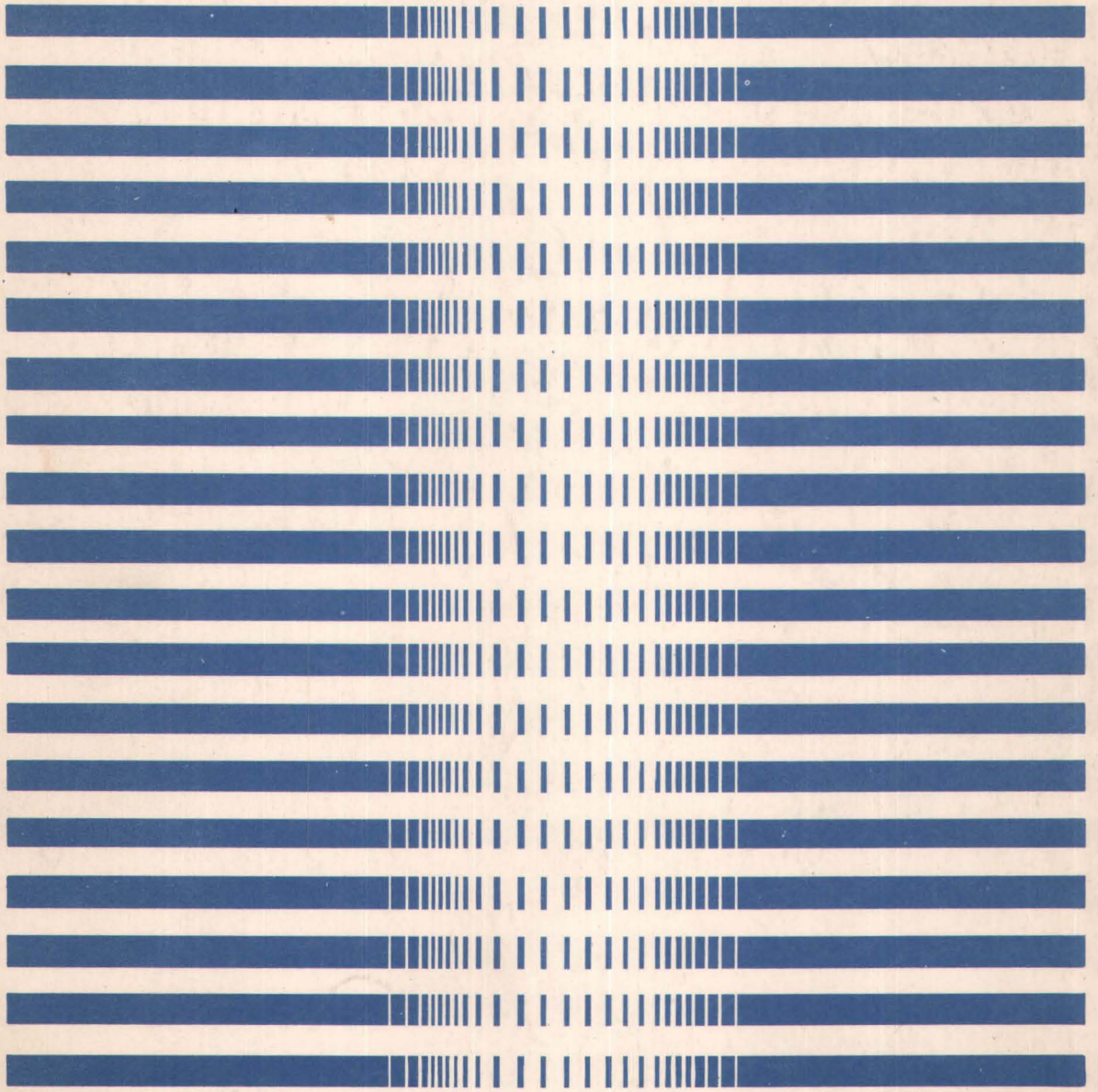
神経化学

日本神経化学会事務局報

〔4〕



昭和48年10月

1. 国際神経化学会議を終えて

塚田裕三

第4回国際神経化学会議は8月26日～31日まで東京の日本都市センターで開催され，お陰様で盛会裡に幕を閉じることが出来ました。これもひとえに教室員諸君並びに各界からの絶大な御援助の賜でありましてここに厚くお礼申し上げます。

参加者は当初に予想していたより多く，外国から約400名，国内からは350名を越え，かなり予裕をみて準備していたプログラムやアブストラクト類もことごとく出払ってしまって残品の整理もなく，全くさわやかな気分です。外国は26ケ国から参加者がありましたが，予定されていたソ連，ポーランドなど東欧圏からの参加が何の通知もなく中止されたことは何か淋しい感じでした。

各会場とも連日盛会で日本の研究者もどしどし討論に参加しておられたことは実にたのしい限りでした。又日本の研究内容も一流のものが多く，日本人参加者の方も大いに自信をもたれたことと思います。ただ外国に日本の業績を周知させることが今後の課題でしょう。

脳の生化学的研究も年々新しい事実が積み重ねられ，生化学領域の中でも特に注目を集めるようになっています。

今回はシンポジユウム八課題，ラウンドテーブル討論八課題それに一般演題300題が発表されましたが，いずれもここ数年の神経系に関する生化学的研究の大きな進歩を跡づけるものでした。中でも脳に特異な蛋白質が次々に分離精製され，今後は機能との関連について一勢に新しい研究が展開されることでありましょう。又記憶の分子的アプローチも流行になってきましたが，研究方法に今一つの精密さと慎重さが要求されるように思われます。脳の脂質代謝異常症は昔から知られた疾患でしたが，ようやく酵素欠損が明らかにされ，早期診断，或いは治療への応用が期待される処まで来ました。サイクリックAMPの問題はどの組織についても研究が白熱していますが，神経系ではシナプス膜の蛋白構造の変化を介してイオンの透過性の調節因子としての役割が注目されています。

神経系ではシナップスに於ける化学伝達物質の合成，貯蔵，放出の問題は重要で各方面からのアプローチが展開されていますが，一方で化学伝達物質を受け止めるレセプターについても親和性クロマトグラフィという新しい技術を用いて膜成分からレセプター蛋白を分離精製することも試みられ，レセプター蛋白の物理化学的特性が論ぜられるようになったことも大きな進歩であると思われます。

このように神経化学がカバーする領域は年々広がり一般演題の数も今後益々増加することが予想されます。このことは学問の発展の上には大いに慶賀すべきことでありましょうが，一方で学会運営上は何らかの歯止めが必要であろうという意見も出てきています。又学会総会も国際色あふれたもので規約などをめぐって仲々デリケートな論議が交されていたようでしたがこの辺になると語学のハンデキャップを痛感せざるを得ませんでした。

次回は1975年6月にスペインのバルセロナで開催されることに決まりましたが，開催希望国が意外に多く，場所の選択には仲々政治的取引きがからむものだということも私にとっては新しい発見でした。

極東の地，日本でとにかく国際会議を盛会裡に開き得たことは，日本におけるこの方面の研究に大きな刺激を与え，また日本の研究を多角的に再評価してもらうことでも有意義であったと思います。

今日では経済大国日本に対する諸外国の期待は大きく国際交流の重要な拠点と見做されているようですが，日本では尚研究，教育面への資金援助は極めて不充分で，外国からの要請に充分答えられなかったことは残念なことでした。

日本の経済力からみると何か畸行的なものを感じさせたのではないかと心配されます。この辺は研究行政の問題でありましょうが特に科学の国際交流は今後重要な課題であり，何かと実が上がるような体制が国家的にとられることを期待したいものです。

慶応義塾医学部新聞（第269号昭和48年9月20日）より転載

2. 理事会議事録

昭和４７年度　第３回日本神経化学会理事会議事録

昭和４７年１１月１日(水)
於　大阪大学医学部

出席者：（理事）佐野　勇，塚田裕三，柿本泰男，
高坂睦年，高橋　良，植村慶一，
佐武　明，高垣玄吉郎，黒川正則，
永田　豊，吉田　博，成瀬　浩，
（監事）台　弘，高橋康夫，
（次期世話人代表）平野修助，
欠席者：（理事）早石　修，山川民夫，

1. 庶務会計報告

昭和４７年度決算報告書（昭和４６年９月１日～昭和４７年８月３１日）につき昭和４７年９月５日に監事高橋康夫，台　弘両氏より承認の印を受けたとの報告が塚田理事長よりあり，理事会もこれを認めた。

又昭和４８年度予算案が理事長より提出され，理事会としてこれを承認した。

（尚昭和４７年度決算報告書並びに昭和４８年度予算案は昭和４７年９月発行神経化学事務局報(3)参照）

2. 会費滞納者への退会勧告の件

会員の中に会費滞納者が多くなって来たので，これらの人について会費納入の勧告をし，もしもこれに応ぜず，４５年度以前の会費の滞納のある者についてはこれを退会させる旨事務局より提案がありこれを承認した。

これに従って昭和４８年度理事選挙以後に滞納者につき納入の勧告を行いこれに応じない場合は退会処分にすることを決めた。

尚未納前歴のあるもので再入会を希望する者が出て来た場合未納分を納入後新入会として再入会が可能であることを明記する旨理事会からの申し出があった。

3. 昭和４８年度　第１６回日本神経化学会の件

世話人代表　東邦大・医・平野修助氏
会　期　１１月３０日(金)
１２月　１日(土)
場　所　東　京
原稿〆切　１０月　３日(水)
審査会　１０月１９日(金)

（第４回　国際神経化学会議に出したものでも，本会に出題しても良い事を確認した）

4. 早石修氏文化勲章受賞の件

理事会として祝電を打つことが発議され，事務局より理事会の名でこれを行った。

5. 日本神経化学会理事選挙報告

理事選挙の郵送による投票の〆切を昭和４７年１２月７日(木)とし，同１２月９日(土)正午に選挙管理委員立合の上で開票が行なわれた。

その結果

発信数	７２５	総投票数	２４７
返信数	１４	うち有効投票数	２４３
有効発信数	７１１	無効　〃	４

当選者氏名　早石修，平野修助，黒川正則，
永田豊，大塚正徳，塚田裕三，
植村慶一，柿本泰男，高坂睦年，
佐野勇，高橋良，台　弘
以上１２名
（ＡＢＣ順）

3. 昭和４８年度 第１回日本神経化学会理事会議事録

昭和４８年２月８日(木)　於慶応大学医学部
出席者，塚田裕三，佐野勇，早石修，平野修助，
柿本泰男，高坂睦平，黒川正則，
大塚正徳，永田豊，高橋良，植村慶一，
台　弘，
欠席者，ナ　シ

1. 選挙報告

日本神経化学会理事選挙報告参照

2. 理事長互選の件

互選の結果，塚田裕三氏（慶大・医・生理）と決った。

3. 常務理事互選の件

互選の結果，佐野勇氏（阪大・医・高次研）と決つた。

4. 補充理事の推薦の件

専門別，地方別及び選挙時の得票数を考慮して次の三氏が推薦された。

高垣玄吉郎氏　（都神経研）
山川　民夫氏　（東大・医・生化）
吉田　　博氏　（阪大・医・薬理）

5. 監事推薦の件

佐武　　明　氏（新大・脳研）
宇尾野公義　氏（都立府中病院）

上記2氏を監事として推薦した。

6. 第16回日本神経化学会開催の件

学会の運営方針は演題応募数を見てプログラム編成委員会で決めることにし，この線に沿って応募要項の作製を行った。尚本年は国際神経化学会が東京で開催されるため，ここに発表されたものでも本会に出題してよいことを確認した。

世話人会

世話人代表，　平野修助氏（東邦大・医・生理）

世話人

植村慶一（埼玉医大・生理）
永田　豊（慶大・医・生理）
松谷天星丸（脳麻研）
野口鉄也（慶大・医・生理）
戸張千年（東邦大・医・生理）
野村正彦（慶大・医・生理）
須田治彦（慶大・医・生理）
御子柴克彦（慶大・医・生理）
北村邦男（埼玉医大・生理）

又下記10氏をプログラム編成専門委員に委嘱した。

市山　新（東大・医・栄養）
加藤尚彦（東大・医・脳研）
栗山欣弥（京府医大・薬理）
永津俊治（愛知学院大・歯・生化）
成瀬　浩（国立精神衛生研）
西塚泰美（神戸大・医・生化）
佐武　明（新大・脳研）
高橋康夫（新大・脳研）
武富　保（信州大・順応研）
宇尾野公義（東京都立府中病院）

7. 第4回国際神経化学会議の開催準備の進行状況が会長塚田裕三氏より報告された。

4. 昭和48年度 第2回日本神経化学会理事会議事録

昭和48年10月19日(金)　於野口記念館(東京)

出席者，塚田裕三，佐野勇，平野修助，柿本泰男，高坂睦年，黒川正則，永田豊，植村慶一，台　弘，（以上　理事）
高垣玄吉郎，山川民夫，吉田　博，（以上補充理事候補）
佐武　明，（監事　候補）

欠席者，早石　修，大塚正徳，高橋　良（以上理事）
宇尾野公義（監事候補）

1. 補充理事委嘱の件

前回推薦された三氏

高垣玄吉郎氏　（都神経研）
山川　民夫氏　（東大・医・生化）
吉田　　博氏　（阪大・医・薬理）

より内諾が得られたので総会で承認を求めることとした。

2. 次期監事推薦の件

前回推薦された二氏

佐武　　明氏　（新大・脳研）
宇尾野公義氏　（都立府中病院）

より内諾が得られたので総会で承認を求めることとした。

3. 次期評議員推薦の件

下記68名の候補者を推薦し総会で承認を求めることとした。（ABC順）

天野　武彦　（三菱生命研）
出口　武夫　（東京都神経研）
江上不二夫　（三菱生命研）
早石　　修　（京大・医・医化）
半田　　肇　（京大・医・脳外）
飯田　静夫　（東大・医・生化）
鳩谷　　龍　（三重大・医・精神）
林　　浩平　（群大・医・生化）
平野　修助　（東邦大・医・生理）
細谷　英吉　（慶大・医・薬理）
市山　　新　（東大・医・栄養）

石井　厚（東北大．医．精神）
柿本　泰男（阪大．医，高次研）
垣内　史郎（大阪府立中宮病院）
鴨下　重彦（東大．医．小児）
仮屋　哲彦（東医歯大．医．神経）
片岡　喜由（愛媛大．医．生理）
加藤　尚彦（東大．医．脳研）
加藤　伸勝（京府医大．精神）
川北　幸男（阪市大．医．神経）
菊野　正隆（上智大．理工．化学）
小林　龍男（杏林大．医．薬理）
高坂　睦年（岡山大．医．脳代謝研）
公文　明（都立精神研）
栗山　欣弥（京府医大．薬理）
黒川　正則（東大．医．脳研）
町山　幸輝（東大．医．精神）
松田　友宏（阪大．医．薬理）
松谷天星丸（脳性麻痺研．生化）
宮本　英七（大阪府立中宮病院）
宮本　侃治（国立武蔵療養所）
森　昭胤（岡山大．医．脳代謝研）
永田　豊（慶大．医．生理）
永津　俊治（愛知学院大．歯，生化）
中島　照夫（阪大．医．高次研）
中村　陸郎（東京鉄道中央病院・精神）
中沢　恒幸（名衛大．医．神経）
成瀬　浩（国立精神衛生研）
西塚　泰美（神戸大．医．生化）
野口　鉄也（慶大．医．生理）
野村　正彦（慶大．医．生理）
大塚　正徳（東医歯大．医．薬理）
大月　三郎（岡山大．医．精神）
斎藤　章二（日大．医．薬理）
佐野　勇（阪大．医．高次研）
佐武　明（新大．脳研・神経化学）
島津　孝（都立．精神研・神経化学）
清水　宏俊（日本ロシュ研）
多田　啓也（阪市大．医・小児）
高垣玄吉郎（東京都，神経研）
高木　博司（京大．薬．薬理）
高橋　良（長崎大．医．精神）
高橋　康夫（新大．脳研・神経薬理）
武富　保（信州大．医．順応研）
谷口　和覧（星ヶ岡厚生年金病院）
谷向　弘（阪大．医．精神）
田崎　義昭（北里大．医．内科）
融　道男（東医歯大．医．精神）
塚田　裕三（慶大．医．生理）
植村　慶一（埼玉医大．生理）
宇尾野公義（都立府中病院）
台　弘（東大．医．精神）
渡辺　昌祐（川崎医大・精神）
山上　栄（阪市大．医．神経）
山川　民夫（東大．医．生化）
山本長三郎（群大．医．行動研）
横井　晋（群大．医．精神）
吉田　博（阪大．医．薬理）

4. 第16回日本神経化学会運営について

世話人代表平野修助氏より運営案が提出され，了承された。

本年度は前夜祭（ライフサイエンスと神経化学）懇親会（会費1,000円）が行なわれる。

5. 次期学会世話人および開催地の件

次期開催地として京都地区が指定され世話人会結成は栗山欣弥氏（京府医大．薬理）に一任された。

6. 庶務．会計報告

永田理事より庶務並びに会計報告がなされた。

日本神経化学会会員数（昭和48年8月31日現在）

現会員数593名（新入会員74名．退会者232名）

昭和４８年度決算報告書　（昭和４７年９月１日～昭和４８年８月３１日）

収　入		支　出	
一般会費	1,458,000 ※	人件費	616,650
賛助会費	870,000	事務局報編集印刷代	216,400
抄録集売上	453,300	抄録集印刷代	292,000
雑収入	11,621	学会運営費	87,792
小計	2,792,921	会議費	51,960
		通信連絡費	193,115
前年度繰越金	1,770,897	事務費	196,830
合計	4,563,818	小計	1,654,747
		次年度繰越金	2,909,071
		合計	4,563,818

〔注〕※督促により年次に亘る累積会費の一括納入があり，今年度は特に収入増があった。

昭和４８年度決算報告書は台氏，高橋（康）氏の承認を得た。
昭和４９年度予算案が下記の如く承認された。

昭和４９年度予算案　（昭和４８年９月１日～昭和４９年８月３１日）

収　入		支　出	
一般会費	850,000	人件費	1,050,000
賛助会費	850,000	事務局報編集印刷代	350,000
抄録集売上	500,000	抄録集印刷代	500,000
雑収入	10,000	学会運営費	350,000
小計	2,210,000	会議費（旅費を含む）	300,000
前年度繰越金	2,909,071	通信連絡費	250,000
		事務費	250,000
		小計	3,050,000
		次年度繰越金	2,069,071
合計	5,119,071	合計	5,119,071

5. 第16回日本神経化学会プログラム編成委員会議事録

議　事

出席者，　塚田，佐野，平野，柿本，高坂，黒川，永田，植村，台，高垣，山川，吉田，市山，加藤，栗山，永津，成瀬，西塚，佐武，高橋（康），武富，

欠席者，　早石，大塚，高橋（良），宇尾野，

（欠席者からは文書で応募原稿について意見が報告された。）

1. 本年度の応募件数　　39件
2. 各応募原稿につき2名づつの審読者が決められ採用，保留，不可の3段階に分け審議した。
3. 採用不可となったもの　　4件
   （うち応募期日に遅れたもの1件を含む）
4. 採用原稿35件を2日に亘って配分しプログラム編成を行なつた。

6. 第16回　日本神経化学会プログラム

＜世話人代表＞　平　野　修　助

＜日　時＞　昭和48年11月30日(金)　12月1日(土)
午前9時より

＜会　場＞　日本電子工学院ホール

前　夜　祭

と　き　：　昭和48年11月29日(木)　午後5時～7時30分

ところ　：　日本電子工学院ホール

主題：ライフサイエンスと神経化学

司　会　　平野修助　（東邦大．医．生理）

1. 精神活動と分子生物学 …… 渡辺　格（慶大．医．分子生物）
2. 人間生命の遺伝的制約 …… 松永　英（国立遺伝研．人類遺伝）

指定討論者（ABC順）　柿本泰男（阪大．医．高次研），高坂睦年（岡大．医．脳代謝研）
佐野　勇（阪大．医．高次研），塚田裕三（慶大．医．生理）
植村慶一（埼玉医大．生理），山川民夫（東大．医．生化）

第1日　　11月30日（金）

9：00～10：35

1. 視床下部電気刺激による血中アンモニアならびに肝尿素サイクル酵素活性の変動。
   ―― 急性精神病における血中アンモニア変動のメカニズムに関する実験的研究 ――
   …… 東村輝彦（山田赤十字病院），神谷重徳，服部尚史，鳩谷龍（三重大．医．神経）
2. 脳内アンモニアの処理機構について。
   …… 小西博行，祖父江憲治，中嶋照夫，佐野勇（阪大．医．高次研）

3. ビリルビンのミトコンドリアにおよぼす影響について。
—— イソクエン酸脱水素酵素を中心に ——
…… 小笠原信明，渡辺智正，後藤治子（愛知コロニー研．生化）

4. ビリルビン毒性に関する研究。
—— ラット脳の糖質代謝におよぼす影響 ——
…… 加藤りつ子，柏俣重夫，丹羽富士子（愛知コロニー研．生化）

5. 実験的脳浮腫ラットの代謝異常。
…… 桑島淳二，中村恵二，藤谷武一，門河敏明，吉田耕一，清水当尚（大日本製薬研）

—— 休　憩（15分）——

10：50～11：50

6. 脳可塑性の生化学的研究—— 大脳半球剔除ラット神経組織の生化学的変化について。(1)
…… 駒井裕一，長野泰甫，荒木恵子，小林征男，奥田正英，佐武明（新潟大．脳研．神経化学）

7. ラット大脳CNP活性と学習行動との相関について
…… 野村正彦，　塚田裕三　（慶大．医．生理）

8. MAM投与による実験的小頭症ラッテの脳内物質変化と行動変化について
…… 松谷天星丸，岡田澄子，永吉道子，塚田裕三（脳麻研．生化）野村正彦（慶大．医．生理）

11：50～13：20　　—— 昼　食（理事会）——

13：20～15：00

9. 毛様．上頸神経節におけるアセチルコリン合成．分解酵素の成長に伴う変動
…… 反町勝，片岡喜由，奥野幸子（愛媛大．医．生理）

10. 軟体動物巨大神経細胞の電気活動に対する含硫アミノ酸類の作用　—　巨大アフリカ．マイマイ食道下神経節による　—　……竹内宏，森昭胤，高坂睦年（岡山大．医．脳代謝研）
大森晋爾（岡山大．医．薬）

11. 手綱核—脚間核路（反屈束）のコリン作動性線維
…… 片岡喜由，反町勝，奥野幸子（愛媛大．医．生理），水野昇（京大．医．解剖）
中村 豊（Max—Planck脳研）

12. CoAサイクリング —— CoA およびアセチルCoA の酵素的微量定量法
…… 加藤尚彦（東大．医．脳研）

13. 中枢神経系におけるアセチルCoA加水分解酵素活性の細胞内分布について
…… 松田友宏，吉田博（阪大．医．I薬理）

—— 休　憩（15分）——

15：15～16：55

14. 脳組織のDNA合成酵素について
…… 須田治彦，野口鉄也，塚田裕三（慶大．医．生理）

15. ニューロン．グリアおよび肝臓細胞核におけるDNA合成活性
…… 鈴木　修，加藤尚彦（東大．医．脳研）

16. ニューロンのクロマチンにみられる特性
…… 溝部文夫，田代朋子，瀬谷典子，黒川正則（東大．医．脳研）

17. ラット大脳の酸性DNA分解酵素の性質
…… 野口鉄也，須田治彦，塚田裕三（慶大．医．生理）

18. マウス脳DNAのReassociation KineticsとそのDNA duplexesの性質
……森 浩一（阪市大．医．神経），M.Wintzerith，P.Mandel（フランス，CRNS）

17：30～19：30　懇親会（蒲田駅ビル西館7階銀座アスター）

第2日　12月　1日（土）

9：00～10：40

19. 実験的高フェニルアラニン血症白鼠の脳組織におけるArylsulfatase Aの活性について
…… 平野修助，岩崎美恵子，戸張千年（東邦大．医．2生理），中井健而（東邦大．医．総研）

20. ミオイノシトールの大量投与による脳内イノシトール誘導体の動態
…… 鈴木　修，直井　信，八木国夫（名大．医．第一生化）

21. Spina bifidaの術後，水頭症をおこした患者の髄液脂質組成について
…… 久保田勝，丸山勝一，宇尾野公義（都立府中病院．神経内科），武富保（信大．医．順応生化）

22. 血液脳関門を通過しないドーパミンβ水酸化酵素阻害剤
…… 原ふみ子，橋爪義夫，原田保夫，浅野正久，日高弘義（愛知コロニー研）

23. L－Alpha-hydrazinomethyldopaとCatecholamine代謝
…… 岸川秀実，森昭胤，高坂睦年（岡山大．医．脳代謝研）大本堯史（岡山大．医．脳外）

―― 休　憩（10分）――

10：50～12：05

24. カテコールアミンによる脳Na-K 依存性　ATPaseの活性化作用機序
…… 吉村啓一（北大．医．I生理）

25. 脳内ノルアドレナリンの前駆物質としての3.4－ジヒドロキシフェニルセリンについて
…… 佐野勇，平井基陽，松岡征夫，中嶋照夫（阪大．医．高次研）

26. リチウムイオンの脳インドールアミン代謝におよぼす作用
…… 渡辺昌祐（川崎医大．精神），中島良彦．江原嵩，井口欽也，田口冠蔵，大月三郎
（岡山大．医．神経）

27. うつ病者に対するL－5HTPの臨床効果と脳内アミン代謝
…… 加藤伸勝，高橋三郎，近藤久雄，森　律，宮本宣博（京府医大．精神）

12：05～13：40　―― 昼　食（評議員会）――

13：40～14：00　――総会――〔議題：1. 庶務会計報告，　2. プログラム編成報告，
3. 理事補充の件，　4. 監事委嘱の件
5. 次期評議員推薦の件，　6. 次期学会世話人
および開催地の件，　7. その他〕

14：00～15：20

28. ヒト大脳，脳脊髄液 および血清中のcyclic 3′，5′－guanosine monophosphate phosphodiesterase
活性 …… 浅野富子，原ふみ子，日高弘義（愛知コロニー研），渋谷正人（名大．医．脳外）

29. 脳のCyclic3′，5′-nucleotide phosphodiesterase：Modulator蛋白について
…… 手島佳子，山崎礼子，宮本英七，垣内史朗（大阪府立．中宮病院）

30. CyclicAMP 依存性　Protein KinaseによるA1蛋白のリン酸化
…… 宮本英七，垣内史朗（大阪府立．中宮病院）

31. 蛋白質の in vivo でのメチル化

..... 三宅正治，井上良一（阪大．医．高次研．神経）

—— 休　憩（15分）——

15：35～16：55

32. 末梢および中枢神経ミエリンの構成蛋白について：塩基性蛋白相互の比較

..... 北村邦男，山中たか子，相沢協子，植村慶一（埼玉医大．I 生理）

33. In vitroにおける微小管の生成

..... 芳賀達也，阿部輝雄，黒川正則（東大．医．脳研）

34. 初老期，老年期痴呆患者の脳蛋白の変化 —— とくに神経原線維変化との関係について(III)

..... 播口之朗，西村健，多田国利，金子仁郎（阪大．医．精神）

35. けい光プローブは興奮膜の何を示すか —— けい光プローブによる脂質 —
たん白質相関の研究 ——

..... 林　浩平（群大．医．生化）

7. 第4回国際神経化学会議（東京）プログラム

SCHEDULE OF SCIENTIFIC SESSIONS

		ROOM 1	ROOM 2	ROOM 3
AUG. 27 (Mon)	Morning	**S-7** Proteins of Nervous System	**S-1** Disorders of Lipid Metabolism	**R-6** Hypothalamic RF & IF
	Afternoon	Brain-specific Proteins (101–113)	Biogenic Amines (201–214)	Proteins & RNA (301–314)
AUG. 28 (Tue)	Morning	**S-2** Transmitters & Receptors	**S-3** Drug Dependence	**R-1** Neurochemistry of Memory Storage
	Afternoon	EAE Protein & Myelin (115–128)	Axoplasmic Transport (215–228)	Cultured Cells (315–328)
AUG. 29 (Wed)	Morning			
AUG. 30 (Thu)	Morning	**S-4** Cellular Neurochemistry	**S-8** Metabolic Regulation	**R-8** Synaptosomes & Synaptic Vesicles
	Afternoon	Neurones & Glia I (129–142)	Lipids & Lipidoses I (229–242)	Transmitters (329–342)
AUG. 31 (Fri)	Morning	**S-6** Cyclic Nucleotides & Neural Function	**S-5** Perinatal Neurochemistry	**R-2** Amine Precursors
	Afternoon	Neurones & Glia II (143–146) Cyclic Nucleotides (147–155)	Lipids & Lipidoses II (243–256)	Synaptosomes (343–355)

SYMPOSIA AND ROUN

		Date	room
S-1	Genetic disorders of lipid metabolism	Aug. 27 (Mon)	Room 2
S-2	Transmitters and receptors	Aug. 28 (Tue)	Room 1
S-3	Neurochemical aspects of drug dependence	Aug. 28 (Tue)	Room 2
S-4	Neurochemistry at the cellular level	Aug. 30 (Thu)	Room 1
S-5	Nucleic acid and protein metabolism in the developing brain	Aug. 31 (Fri)	Room 2
S-6	Implication of cyclic 3′, 5′-nucleotides in neural function	Aug. 31 (Fri)	Room 1
S-7	Proteins of the nervous system	Aug. 27 (Mon)	Room 1
S-8	Regulation mechanisms in CNS metabolism	Aug. 30 (Thu)	Room 2

Morning sessions will be **9:00 am to noon**; afternoon sessions **1:30 to 5:00 pm**.
S: Symposium; **R**: Round-table discussion. **Numbers** in parentheses: Abstract numbers.

ROOM 4	ROOM 5	ROOM 6	GRAND HALL
R-7 Lysosomes			
Chemical Pathology I (401–414)	Enzymes (501–514)	Neural Excitation (601–607) Amino Acids (608–614)	
R-4 Prostaglandins & CNS			
Chemical Pathology II (415–428)	ACh System (515–528)	CSF & Body Fluids (615–628)	
			Plenary Lectures
R-5 Clinical Neurochemistry			
Chemical Pathology III (429–435) Neuroendocrine Interaction (436–442)	Behaviour & Metabolism (529–542)	Drug Action I (629–642)	
R-3 Ion Metabolism			
Neurological Disorders (443–456)	Development (543–556)	Drug Action II (643–655)	

D-TABLE DISCUSSIONS

		Date	room
R-1	Neurochemical studies of memory storage: Alternative approaches	**Aug. 28 (Tue)**	**Room 3**
R-2	Precursors of biogenic amines	**Aug. 31 (Fri)**	**Room 3**
R-3	Ion metabolism in the brain	**Aug. 31 (Fri)**	**Room 4**
R-4	Prostaglandins and the central nervous system	**Aug. 28 (Tue)**	**Room 4**
R-5	Clinical neurochemistry	**Aug. 30 (Thu)**	**Room 4**
R-6	Hypothalamic releasing and inhibiting factors	**Aug. 27 (Mon)**	**Room 3**
R-7	Lysosomes	**Aug. 27 (Mon)**	**Room 4**
R-8	Synaptosomes and synaptic vesicles	**Aug. 30 (Thu)**	**Room 3**

ROOM 1

S-7 PROTEINS OF THE NERVOUS SYSTEM

Chairman and Organizer: Mandel P. (France), Kakimoto Y. (Japan)
Uyemura K. (Japan)

9 : 00 Mandel P. (France)
Opening Remarks.

9 : 05 **S7-1** Carnegie P.R. and Dunkley P.R. (Australia)
Basic proteins of CNS and PNS myelin.

9 : 30 **S7-2** Davison A.N. (U.K.)
Metabolism of myelin proteins.

9 : 55 Folch-Pi J. and Sakura J.D. (U.S.A.)
Properties of proteolipid apoproteins (PA).

10 : 10 **S7-3** Margolis F.L. (U.S.A.)
A brain protein unique to the olfactory pathway.

10 : 35 — break —

10 : 45 **S7-4** Siegel F., Brooks J., Childers S. and Campbell J. (U.S.A.)
Calcium binding proteins from adrenergic and cholinergic tissue.

11 : 10 **S7-5** Vincendon G., Morgan I.G., Zanetta J.P., Reeber A., di Benedetta C., van Leeuwen C. and Gombos G. (France and Italy)
Glycoproteins of the synaptic region.

11 : 35 **S7-6** Berl S., Nicklas W.J. and Mahendran C. (U.S.A.)
Actomyosin-like brain protein (neurostenin) : A function in transmitter release is suggested.

ROOM 2

S-1 GENETIC DISORDERS OF LIPID METABOLISM

Chairman and Organizer: Suzuki K. (U.S.A.), Suzuki Y. (Japan)
Yamakawa T. (Japan)

9 : 00 **S1-1** Suzuki K. (U.S.A.)
Introductory Remarks.

9 : 15 **S1-2** Sloan H.R. (U.S.A.)
Clinical, chemical and enzymatic heterogeneity of Gaucher's disease and Niemann-Pick disease.

9 : 50 **S1-3** Austin J.H. (U.S.A.)
Some aspects of the genetic leukodystrophies.

10 : 25 — break —

10 : 40 **S1-4** Sandhoff K. (West Germany)
G_{M2}-Gangliosidosis.

11 : 15 **S1-5** Wolfe L.S., Senior R.G. and Ng Ying Kin N.M.K. (Canada)
On the chemical nature of glycopeptides and oligosaccharides accumulating in the liver of G_{M1}-gangliosidosis.

11 : 50 — general discussion —

ROUND-TABLE DISCUSSION

MONDAY MORNING, AUG. 27

ROOM 3

R-6 HYPOTHALAMIC RELEASING AND INHIBITING FACTORS

Chairman and Organizer: Marks N. (U.S.A.), Takahashi K. (Japan)

9 : 00 **R6-1** Marks N. (U.S.A.)
Hypothalamic regulatory hormones: An introduction.

9 : 15 **R6-2** Yanaihara N. (Japan)
Structure-activity relationship of luteinizing hormone-releasing hormone/follicle stimulating hormone-releasing hormone.

9 : 40 **R6-3** Kaneko T. (Japan)
Studies on the mechanism of action of LH-RH.

10 : 05 **R6-4** Marks N. and Walter R. (U.S.A.)
Breakdown of MSH-R-IH and its prohormone oxytocin.

10 : 30 **R6-5** Galoyan A.R., Marks N. and Lajtha A. (U.S.S.R. and U.S.A.)
Breakdown and turnover of polypeptide neurohormones.

10 : 55 — break —

11 : 10 **R6-6** Hiroshige T. (Japan)
Attempts to physiologically validate the circadian rhythm of corticotropin-releasing activity in the rat hypothalamus.

11 : 35 **R6-7** Sawano S., Matsuno T., Yamazaki M. and Baba Y. (Japan)
Studies on growth-hormone releasing activity in bovine hypothalami.

ROOM 4

R-7 LYSOSOMES

Chairman and Organizer: Ansell G.B. (U.K.), Takahashi Y. (Japan)

9 : 00 Ansell G.B. (U.K.)
Opening Remarks.

9 : 05 **R7-4** Siakotos A.N., Patel B., Bucana C. and Patel V. (U.S.A.)
The isolation and biochemical properties of brain lysosomes.

9 : 30 **R7-1** Sellinger O.Z., Idoyaga-Vargas V., Santiago J.C., Khawaja J.A., Petiet P.D. and Furin-Sloat B. (U.S.A.)
Further characterization of neuronal lysosomes during early post-natal development.

10 : 00 **R7-2** Sinha A.K. and Jones-Lecointe A. (U.K.)
Compartmentation of lysosomal enzymes in neurons, neuropil and synaptosomes of rat cerebral cortex.

11 : 00 **R7-5** Barrett A.J., Dingle J.T. and Poole A.R. (U.K.)
The use of immunoenzymic techniques in the study of lysosomal function.

11 : 30 — general discussion —

11 : 50 Ansell G.B. (U.K.)
Closing Remarks.

ROOM 1

BRAIN-SPECIFIC PROTEINS

1 : 30 **101** **Giuditta A., Prozzo N. and Moore B.W.** (Italy and U.S.A.). Preparation of a cephalopod nervous-system protein.

1 : 45 **102** **Wellington B.S., Livett B.G., Jeffrey P.L. and Austin L.** (Australia). Neurostenin : Isolation, biochemical characterization and histochemical localization in chick brain.

2 : 15 **104** **Warecka K.** (West Germany). Chemical, physical and biological properties of human glia-specefic protein.

2 : 30 **105** **Bogoch S.** (U.S.A.). Astrocytin : Purified immunologically active component of brain glycoprotein 10B.

2 : 45 **106** **Mori T. and Morimoto K.** (Japan). Astroprotein, an astrocyte-specific cerebroprotein, in normal brain and glioma.

3 : 00 **107** **Grasso A.** (Italy). Some properties and subcellular distribution of 14-3-2, a brain specific protein.

3 : 30 **109** **Permal A.S., McMorris F.A., Kolber A.R. and Moore B.W.** (U.S.A.). Differentiated expression in neuroblastoma cell hybrids. Expression of the neuron-specific protein, 14-3-2, and steroid sulfatase.

3 : 45 **110** **Amaldi P. and Rusca G.** (Italy). *In vitro* synthesis of a brain specific protein (S-100) by polysomes.

4 : 00 **111** **Mehl E. and Weber L.** (West Germany). Purification of 5-hydroxytryptamine- and LSD-binding proteins from cerebral membranes.

4 : 30 **113** **Margolis R.K., Jaanus S. and Margolis R.U.** (U.S.A.). Mucopolysaccharides and glycoproteins of chromaffin granules : Release from the perfused adrenal gland following stimulation by acetylcholine.

443 **Palo J. and Savolainen H.** (Finland). Studies on neural proteins in amyotrophic lateral sclerosis.

ROOM 2

BIOGENIC AMINES

1 : 30 **201** **Tsukada Y., Nagai K. and Kishimoto H.** (Japan). Neurochemical studies on amine metabolism in various regions of monkey brain after the administration of amine precursors.

1 : 45 **202** **Roberge A. G.** (Canada). Brain DOPA/5HTP decarboxylase activity after the chronic L-DOPA administration in normal and lesioned cats.

2 : 00 **203** **Philips S., Durden D. and Boulton A. A.** (Canada). Identification and distribution of β-phenylethylamines in the rat.

2 : 15 **204** **Dolezalova H. and Giacobini E.** (U.S.A.), **Seiler N. and Schneider H. H.** (West Germany). Evidence for piperidine as a physiological constituent of the invertebrate central nervous system.

2 : 30 **205** **Wu P. H. and Boulton A. A.** (Canada). Metabolism, distribution and half life of tryptamine in rat brain.

2 : 45 **206** **Kido R., Noguchi T., Tsuda H. and Minatogawa Y.** (Japan). Additional enzymes affecting serotonin in the brain.

3 : 00 **207** **Gabay S., Achee F. M. and Togulga G.** (U.S.A.) Monoamine oxidase in purified brain mitochondria : An appraisal of some properties.

3 : 15 **208** **Nagatsu T. and Udenfriend S.** (U.S.A.). A Simple assay of dopamine-β-hydroxylase in blood.

3 : 30 **209** **Yoshimura K. and Hiroshige T.** (Japan). Catecholamine-induced activation of Na-K activated adenosine triphosphatase in the rat brain *in vitro*.

3 : 45 **210** **Sacks W. and Sacks S.** (U.S.A.). The relationship of a tungstate-precepitable form of ^{14}C-DOPA to its uptake by brain of the rhesus monkey *in vivo*.

4 : 30 **213** **Takahashi R., Tateishi T., Nakamura E. and Sakurai Y.** (Japan). Relationship between brain amines and liver enzyme activities in animal model of depressive illness.

ROOM 3

PROTEINS AND RNA

1 : 30 **301** **Eng F., Pratt D.V. and Wilson L.** (U.S.A.). Comparison of neurotubule protein from human and chick embryo brain.

1 : 45 **302** **Haga T., Abe T. and Kurokawa M.** (Japan). Formation and breakdown of microtubules *in vitro* as studied by flow birefringence.

2 : 45 **306** **Marks N., Stern F. and Mela P.** (U.S.A.). Estimation of turnover of proteins in slices from brain.

3 : 00 **307** **Hernandez A., Rabbitts T. H. and Work T. S.** (U.K.). The informational genetic content of brain mitochondria.

3 : 30 **309** **Soga K. and Takahashi Y.** (Japan). Characterization of RNA in rat brain nuclei by the hybridization techniques.

3 : 45 **310** **Murthy M. R. V. and Roux H.** (Canada). Transformations of the dicarboxylic amino acids and their amides at the level of aminoacyl-tRNA by brain extracts.

4 : 15 **312** **Mikoshiba K., Tsukada Y., Haruna I., Ohno T. and Watanabe I.** (Japan). RNA dependent RNA biosynthesis in rat brain.

4 : 30 **313** **Yamaguchi T.** (Japan). Effects of 6-azauracil on RNA metabolism in guinea pig brain.

4 : 45 **314** **Miner G. D. and Heston L. L.** (U.S.A.). Do a large proportion of human brain proteins exist dynamically among "soluble", "semi-soluble", and "insoluble" states?

ROOM 4 CHEMICAL PATHOLOGY-I

1 : 30 **401** **Kakari S.** (U.S.A.). Cellular and molecular mechanisms in the pathogenesis of experimental paraplegia.

1 : 45 **402** **Andjus R. K., Ćirković T., Genci R. and Milosević V.** (Yugoslavia). Metabolic correlates of brain survival.

2 : 00 **403** **Lee L.W. and Yatsu F.M.** (U.S.A.). A study of oxidative phosphorylation in ischemic brain.

2 : 45 **406** **Reichle R. M., Brigham M. P., Reichle F. A. and Rosemond G. P.** (U.S.A.). The effect of portacaval shunt and hepatic ischemia on brain catecholamine metabolism.

3 : 00 **407** **Ganser V. and Boksay I.** (West Germany). The effect of methylxanthines and corticosteroids on experimental cold-induced brain edema in cats.

3 : 15 **408** **Wassenaar J. S.** (Netherlands). Studies on the by triethyltin induced brain edema. Effects of trialkylmetals on phosphohydrolases : Mitochondrial and extra-mitochondrial ATPases, 5′-nucleotidase and 2′, 3′-and 3′, 5′-cAMPases of cortical grey and subcortical white matter of rabbit brain.

3 : 30 **409** **Smith M. E. and Tagg J. S.** (U.S.A.). Proteolytic mechanisms in demyelination from triethyl tin edema.

4 : 00 **411** **Yamada N., Sawasaki Y. and Nakajima H.** (Japan). Impairment of deoxyribonucleic acid synthesis in kernicteric rat brain.

4 : 15 **412** **Hirano S., Tobari C., Iwasaki M. and Uyemura K.** (Japan). Neurochemical aspects of experimental hyperphenylalaninemia in suckling miniature pig.

4 : 30 **413** **Shah S.N. and Johnson R.C.** (U.S.A.). The fatty acid composition of phospholipids and glycolipids in myelin from brains of hyperphenylalaninemic rats.

ROOM 5

ENZYMES

1 : 30 **501** **Nagatsu T., Numata Y. and Nagatsu I.** (Japan). Properties of tyrosine hydroxylase in the nervous system.

1 : 45 **502** **Hirata F., Tokuyama T., Senoh S. and Hayaishi O.** (Japan). Oxygenative ring cleavage of indoleamines and their derivatives in central nervous system.

2 : 00 **503** **Hidaka H., Hara H., Hashizume Y. and Takemoto N.** (Japan). *In vivo* inhibition of dopamine β-hydroxylase by the picolinic acids.

2 : 15 **504** **Fisher S.K. and Davies W.E.** (U.K.). Partial purification and characterisation of guinea pig brain glutamic acid decarboxylase.

2 : 30 **505** **Wu J.-Y. and Roberts E.** (U.S.A.). Studies of inhibition of mouse brain L-glutamic acid decarboxylase.

2 : 45 **506** **Matsuda T., Wu J.-Y. and Roberts E.** (U.S.A.). Some immunochemical properties of glutamic acid decarboxylase from mouse brain.

3 : 00 **507** **Schousboe A., Wu J.-Y. and Roberts E.** (U.S.A.). Purification and characterization of the GABA-transaminase from mouse brain.

3 : 15 **508** **Lewis A.S., Chess D. and Glantz M.D.** (U.S.A.). Isolation, purification, and properties of rabbit brain guanine deaminase.

4 : 00 **511** **Ogasawara N., Watanabe T. and Goto H.** (Japan). Bilirubin : A potent inhibitor of brain NAD-dependent isocitrate dehydrogenase.

4 : 15 **512** **Kashiwamata S., Niwa F., Higashida H. and Kato R.** (Japan). Inhibition of bovine brain malate dehydrogenase by bilirubin.

ROOM 6 NEURAL EXCITATION

1 : 30 **601** **Kasai M. and Miyamoto H.** (Japan). Evidence of *in vitro* electrical excitation of sarcoplasmic reticulum membrane fragments by changing ionic composition.

1 : 45 **602** **Okamoto K. and Quastel J.H.** (Canada). Correlation between the neurochemical and electrophysiological behavior of guinea pig cerebellum *in vitro*.

2 : 00 **603** **Kawai N., Mauro A. and Grundfest H.** (Japan and U.S.A.). Effects of black widow spider venom on the crustacean neuromuscular junctions.

2 : 30 **605** **Takeuchi H., Mori A. and Kohsaka M.** (Japan). Pharmacological study on a giant neurone, sensible to 5-hydroxytryptamine and dopamine, identified in subesophageal ganglions of the African giant snail (*Achatina fulica FERUSSAC*).

AMINO ACIDS

3 : 15 **608** **Nakajima T., Kakimoto Y. and Sano I.** (Japan). Putreanine, an amino acid discovered in the mammalian central nervous system.

3 : 30 **609** **Weil-Malherbe H.** (U.S.A.). Inhibition of brain glutamate dehydrogenase by a metabolite of cycloheximide and its relevance for the mechanism of ammonia formation in brain slices.

4 : 00 **611** **Piccoli F., Guarneri R. and Bonavita V.** (Italy). Some aspects of transport in rat retina *in vitro*.

4 : 15 **612** **Otsuki S., Watanabe S., Nakashima Y., Taguchi K., Kono S., Ebara T. and Iguchi K.** (Japan). Influence of serum concentrations of tryptophan and 5HTP on the concentrations of tryptophan, 5HT and amino acids in the various parts of the brain.

4 : 30 **613** **Drewes L.R. and Gilboe D.D.** (U.S.A.). Oxidation of branched chain amino acids by the isolated, perfused dog brain.

4 : 45 **614** **Möhler H., Patel A.J., Reynolds A.P. and Balázs R.** (U.K.). Metabolic compartmentation : Effects of a CNS depressant, 1-hydroxy-3-amino-pyrrolidine-2 (HA-966).

ROOM 1

S-2 TRANSMITTERS AND RECEPTORS

Chairman and Organizer: Changeux J.-P. (France), Roberts E. (U.S.A.)
Kuriyama K. (Japan), Otsuka M. (Japan)

9 : 00 Changeux J.-P. (France)
Introductory Remarks

9 : 05 **S2-1** Barker D. L., Herbert E., Hildebrand J. G. and Kravitz E. A. (U.S.A.)
Acetylcholine as a crustacean sensory transmitter.

9 : 30 **S2-2** Otsuka M., Miyata Y., Konishi S. and Takahashi T. (Japan)
A study of neurotransmitters in the spinal cord.

9 : 55 **S2-3** Changeux J.-P. (France)
Functional properties of the cholinergic receptor protein from *Electrophorus* and *Torpedo* electric organ.

10 : 20 **S2-4** De Robertis E. (Argentina)
Studies on isolated synaptic receptor proteins.

10 : 45 **S2-5** Kelly J.S., Iversen L.L., Minchin M. and Schon F. (U.K.)
Inactivation of amino acid transmitters.

11 : 10 **S2-6** Roberts E. (U.S.A.)
A model of the vertebrate nervous system based largely on disinhibition : Interaction of the known transmitter systems.

11 : 35 — general discussion —

11 : 55 Roberts E. (U.S.A.)
Concluding Remarks

SYMPOSIUM

ROOM 2

S-3 NEUROCHEMICAL ASPECTS OF DRUG DEPENDENCE

Chairman and Organizer: Clouet D.H. (U.S.A.), Lajtha A. (U.S.A.)
Takahashi R. (Japan), Yoshida H. (Japan)

I. The Role of Neurotransmitters in Dependence

9 : 00 **S3-1** Lewander T. (Sweden)
Studies on amphetamine tolerance and abstinence in rats.

9 : 25 **S3-2** Gershon S., Angrist B. and Wilk S. (U.S.A.)
Amphetamine psychosis: Relationships to catechol metabolites in CSF and urine.

9 : 50 **S3-3** Way E.L., Ho I.K. and Loh H.H. (U.S.A.)
Some biochemical aspects of morphine tolerance and physical dependence.

10 : 15 — discussion —

II. The Sites of Action of Opiates in Peripheral and Central Nervous System

10 : 55 **S3-5** Ehrenpreis S. and Greenberg J. (U.S.A.)
On the nature of the morphine receptors in guinea-pig ileum.

11 : 20 **S3-6** Simon E.J. (U.S.A.)
Studies on the morphine receptor in the CNS.

11 : 45 — discussion —

ROOM 3

R-1 NEUROCHEMICAL STUDIES OF MEMORY STORAGE: ALTERNATIVE APPROACHES

Chairman and Organizer: Barondes S.H. (U.S.A.), Nagata Y. (Japan)

9 : 00 Barondes S.H. (U.S.A.)
Introduction

I. Effect of Inhibitors of Protein or RNA Synthesis

9 : 05 **R1-1** Agranoff B.W., Klinger P.D. and Neale J.H. (U.S.A.)
The use of antibiotics in the study of memory formation.

9 : 20 **R1-2** Barondes S.H. and Squire L.R. (U.S.A.)
Three different brain protein synthesis inhibitors affect "long term" but not "short term" memory.

9 : 45 — general discussion —

II. Alterations in Macromolecular Synthesis or Structure

9 : 55 **R1-4** Glassman E., Gispen W.H., Perumal R., Machlus B. and Wilson J.E. (U.S.A.)
The possible role of protein phosphorylation in regulating interneuronal connectivity.

10 : 10 **R1-5** Hydén H. and Lange P.W. (Sweden), and Mihailović Lj. and Petrović-Minić B. (Yugoslavia)
Changes of RNA base composition in nerve cells of monkeys subjected to visual discrimination and delayed alternation performance.

10 : 25 **R1-6** Levitan I.B. (U.S.A.)
Protein metabolism in mammalan and invertebrate nervous systems: Correlation with behavioral and cellular plasticity.

10 : 40 — general discussion —

10 : 50 — break —

III. Specific Molecules

11 : 10 **R1-7** Ungar G. (U.S.A.)
Evidence for molecular coding of memory.

11 : 30 — general discussion —

11 : 40 — Summary —

ROUND-TABLE DISCUSSION

ROOM 4

R-4 PROSTAGLANDINS AND THE CENTRAL NERVOUS SYSTEM

Chairman and Organizer: Paoletti R. (Italy), Kato R. (Japan)

9 : 00 Paoletti R. (Italy)
Introduction

9 : 10 **R4-1** Samuelsson B. (Sweden)
Biosynthesis and metaboliam of prostaglandins.

9 : 40 **R4-2** Bradley P.B. (U.K.)
Prostaglandin/drug interactions in the C.N.S.

10 : 00 **R4-3** Bloom F.E., Siggins G.R. and Hoffer B.J. (U.S.A.)
Prostaglandins E_1 and E_2 : Naturally-occurring selective antagonists of the noradrenergic synaptic pathway to cerebellar Purkinje cells.

10 : 20 — intermission —

10 : 35 **R4-6** Paoletti R., Fumagalli R., Berti F., Trabucchi M., Bernareggi V. and Falco G.C. (Italy)
Prostaglandins and cyclic AMP formation in mammalian cerebral cortex.

10 : 55 **R4-4** Coceani F., Viti A. and Bishai I. (Canada)
Prostaglandins and the activity of spinal neurons in the frog.

11 : 15 **R4-5** Posner J. (U.K.)
Prostaglandins and the eye.

11 : 35 — general discussion —

11 : 55 Paoletti R. (Italy)
Concluding Remarks

ROOM 1

EAE PROTEIN AND MYELIN

1 : 30 115 **Eylar E.H., Kniskern P., Jackson J. and Brostoff S.** (U.S.A.). Allergic encephalomyelitis in guinea pigs: Phylogenetic variation in the disease-inducing site of the A 1 protein.

1 : 45 116 **Hashim G.A.** (U.S.A.). Encephalitogenic basic protein: Isolation, characterization and synthesis of the determinants for delayed type hypersensitivity.

2 : 00 117 **Kies M.W., Martenson R.E., Driscoll B.F., Deibler G.E., Kramer A.J. and Blum M.L.** (U.S.A.). Myelin basic protein: Relation of structure to immunogenicity.

2 : 15 118 **Nagai Y., Nakano K. and Yasuda T.** (Japan). Antigenicity of encephalitogenic protein complex and specific lymphocyte activation with active peptides.

2 : 30 119 **Banik N.A. and Davison A.N.** (U.K.). The relation of basic protein to myelin structure.

2 : 45 120 **Wood J.G. and Dawson R.M.C.** (U.K.). The effect of trypsin on the proteins and lipids of myelin.

3 : 00 121 **Lehrer G.M., Fry J.M., Bornstein M.B., Maker H.S. and Weiss C.** (U.S.A.). Immunochemical control mechanisms in oligodendrocyte differentiation.

3 : 15 122 **Sammeck R.** (West Germany). Myelin sheath: Turnover of myelin basic proteins during morphogenesis.

3 : 30 123 **Lapin E., Maker H.S. and Lehrer G.M.** (U.S.A.). Microdisc-electrophoresis of myelin basic protein.

3 : 45 124 **Uyemura K., Kitamura K., Tobari C. and Hirano S.** (Japan). Studies on myelin proteins in bovine peripheral nerve.

4 : 00 125 **Lees M.B. and Paxman S.A.** (U.S.A.). Regional distribution of myelin proteins in the bovine CNS.

4 : 15 126 **Poduslo J.F. and Braun P.E.** (U.S.A.). Topographical arrangement of membrane proteins in the intact myelin sheath.

4 : 30 127 **Wood D.D., Orange R.P. and Moscarello M.A.** (Canada). Interactions of rabbit IgG with two conformational states of a myelin protein.

ROOM 2

AXOPLASMIC TRANSPORT

1 : 30 215 **Ledeen R., Grafstein B., Specht S., Forman D. and Grady R.** (U.S.A.). Rapid axonal transport of gangliosides in the goldfish and mouse.

2 : 00 217 **Nagatsu I., Hartman B.K. and Udenfriend S.** (U.S.A.). Studies on axoplasmic flow of dopamine-β-hydroxylase in sciatic nerves by immunofluorescent method.

2 : 15 218 **McGeer E.G., Fibiger H.C. and McGeer P.L.** (Canada). Axoplamic transport of dopamine in nigro-striatal neurons.

2 : 30 219 **Abe T., Haga T. and Kurokawa M.** (Japan). Simultaneous transport of proteins and phosphatidylcholine in the frog sciatic nerve.

2 : 45 220 **Kabara J.J., Conley A., Appeltauer G.S. and Korr I.M.** (U.S.A.). Axoplasmic flow of sterols in the hypoglossal nerve.

3 : 00 221 **Hammerschlag R. and Dravid A.R.** (U.S.A.). A simplified method for studying axoplasmic transport *in vitro*.

3 : 15 222 **Edström A.** (Sweden). Effects of Ca^{2+} on rapid axonal transport of protein *in vitro* in frog sciatic nerves.

3 : 30 223 **Zimmermann H. and Whittaker V.P.** (U.K. and Italy). Evidence for axonal flow of acetylcholine (ACh) in cholinergic nerves.

4 : 00 225 **Giorgi P.P. and Karlsson J.O.** (U.K. and Sweden). Axonal transport and myelin proteins in the optic nerve.

4 : 15 226 **Kuriyama K., Yamasaki Y. and Israel M.A.** (Japan and U.S.A.). Effect of acute and chronic ethanol administration on axoplasmic flow in cerebral cortex and retinal ganglion cells.

4 : 30 227 **Hattori T., McGeer P.L., Fibiger H.C., Maler L. and McGeer E.G.,** (Canada). Axoplasmic flow in the basal ganglia by light and electron microscopic radioautography.

ROOM 3

CULTURED CELLS

1 : 30 315 **Amano T., Hamprecht B. and Kemper W.** (U.S.A.). High activity of choline acetyltransferase induced in neuroblastoma × glia hybrid cells.

1 : 45 316 **Haber B., Werrbach K., Vance C, and Hutchison H.T.** (U.S.A.). Uptake of γ-aminobutyric acid and norepinephrine by clonal astrocytoma and neuroblastoma cell lines in culture.

2 : 00 317 **Massarelli R., Ciesielski-Treska J., Ebel A. and Mandel P.** (France). Choline uptake in neuroblastoma cell cultures.

2 : 15 318 **Massarelli R., Sensenbrenner M., Ebel A. and Mandel P.** (France). Choline uptake in cluture of dissociated cerebral cells from chick embryos.

2 : 30 319 **Tholey G., Ciesielski-Treska J., Wurtz B. and Mandel P.** (France). Effects of some differentiating factors on enzymatic activities involved in the carbohydrate metabolism of neuroblastoma clones.

3 : 00 321 **Tsukada Y., Shibuya M. and Ogawa Y.** (Japan). Changes of 2′, 3′-cyclic nucleotide 3′-phosphohydrolase activity of myelinating neural tissue grown in cultures.

3 : 15 322 **Booher J., Sensenbrenner M. and Lodin Z.** (U.S.A., France and Czechoslovakia). Growth and cultivation of dissociated neurons and glial cells from embryonic chick, rat and human brain in flask cultures.

3 : 30 323 **Kanno T. and Nakazawa T.** (Japan). Effects of cyclic AMP on malignant glioma.

3 : 45 324 **Nagai M., Teraoka A., Nomura K., Matsutani M., Hoshino T. and Sano K.** (Japan). Differentiating effect of cyclic AMP on the glioma cell.

4 : 00 325 **Gill T.H., Young O.M. and Tower D.B.** (U.S.A.). Transport of ^{36}Cl into astrocytes in tissue culture by a potassium-dependent saturable process.

4 : 15 326 **Nakazawa T.** (Japan). The activity of methyltransferase induced by vitamin B_{12} in cell line (NTS) established from rat brain.

4 : 30 327 **Schneck L., Pinkett B., Amsterdam D., Adachi M. and Volk B.W.** (U.S.A.). Sphingoglycolipids in fetal TSD brain, explants, and cultures.

ROOM 4

CHEMICAL PATHOLOGY-II

1 : 30 **415** **Kabara J.J.** (U.S.A.), The effect of fasting on precursor incorporation.

2 : 00 **417** **Bak I.J., Kim J.S. and Hassler R.** (West Germany). Effect of harmaline on rat exposed to high pressure oxygen in relation to convulsions and extrapyramidal motor disorders.

2 : 15 **418** **Toru M., Shibuya H. and Shimazono Y.** (Japan). Sleep deprivation : Changes of intraventricularly injected ^{3}H-tryptophan metabolism in three brain areas of rats.

2 : 30 **419** **Hus L.L.** (U.S.A.). Irradiation of mouse brain : Effects on incorporation of tyrosine-C^{14} into catecholamines *in vivo* and on uptake of NE-C^{14} by brain slices *in vitro*.

2 : 45 **420** **Sun G.Y.** (U.S.A.). Brain vulnerability to fatty acid deficiency.

3 : 00 **421** **Itokawa Y. and Tanaka C.** (Japan). Thiamine in nervous tissues of pigeons.

404 **Giusto N.M. and Bazán N.G.** (Argentina). Augmented production of tryglycerides with ether-bonds (TEB) in retina and brain during incubation under anoxia.

405 **Pascual de Bazán H.E., Aveldaño de Caldironi M.I. and Bazán N.G.** (Argentina). Modifications in the free fatty acid (FFA), triacylglycerols and monoacylphosphoglycerides during ischemia in the central nervous system of homeotherms and poikilotherms.

3 : 45 **424** **Jarlstedt J., Blomstrand C., Hallén O. and Hamberger A.** (Sweden). Effects of thiethylperazine on vestibular system biochemistry.

4 : 00 **425** **Crichlow E.C., Gupta V.S. and Crawford R.D.** (Canada). The involvement of brain gamma aminobutyric acid (GABA) in Fayoumi fowl genetically predisposed to generalized seizures.

4 : 15 **426** **Irvine D.G., Ell D. and Crichlow E.C.** (Canada). Anticonvulsant and E.E.G. activities of kryptopyrrole, and a possible underlying neurochemical mechanism.

4 : 45 **428** **Battistin L., Varotto M. and Boccu E.** (Italy). Cerebral amino acid uptake *in vivo* in the experimental epilepsy.

ROOM 5

ACh SYSTEM

1 : 30 515 **Maruyama Y., Stavinoha W.B. and Hosoya E.** (Japan and U.S.A.) Gaschromatographic determination of acetylcholine in biological specimens..

1 : 45 516 **Molenaar P.C., Polak R.L. and Nickolson V.J.** (Netherlands). Storage of newly synthesized acetylcholine in synaptic vesicles.

2 : 00 517 **Sekiya M., Kikuno M., Morinobu S., Michalec J.M. and Yang C.C.** (Japan and Taiwan). Fluorescent probe of the cholinergic effect on the central nervous system.

2 : 15 518 **Chao L.-P. and Wolfgram F.** (U.S.A.). Purification and some properties of choline acetyltransferase from bovine brain.

2 : 30 519 **Kataoka K., Nakamura Y. and Hassler R.** (Japan and West Germany). Decrease in choline acetyltransferase activity in the interpeduncular nucleus after the habenular lesion of the rat.

2 : 45 520 **Max S.R., Snyder D.H. and Rifenberick D.H.** (U.S.A.). Effect of neuromuscular activity on choline acetyltransferase and acetylcholinesterase.

3 : 00 521 **Reynolds S.F., Jope R. and Blass J.P.** (U.S.A.). An association between the pyruvate dehydrogenase complex and choline acetyltransferase in the cat central nervous system.

3 : 15 522 **Kobayashi K., Mori A. and Kohsaka M.** (Japan). Acetylcholinesterase isoenzymes in brain.

3 : 30 523 **Varela J.M.** (Netherlands). Acetylcholinesterase of muscle and brain of rat : Some kinetic differences.

3 : 45 524 **Haywood J., Hambley J. and Rose S.** (U.K.). Changes in acetylcholinesterase activity in chick brain following exposure to an imprinting stimulus.

4 : 00 249 **Adachi M., Schneck L. and Volk B.W.** (U.S.A.). Ultrastructural, histochemical and biochemical studies of the CNS, liver and spleen of FM mice.

4 : 15 526 **Ebel A., Stefanovic V., Hermetet J.C., Mack G., Simler S. and Mandel P.** (France). Alterations of choline acetyltransferase and acetylcholinesterase activities in different behavioral patterns.

4 : 30 527 **Hanin I., Cheney D.L., Trabucchi M., Wang C.T. and Costa E.** (U.S.A.). Application of principles of steady-state kinetics to estimate brain acetylcholine turnover rate *in vivo*.

ROOM 6 CSF AND BODY FLUIDS

1 : 30 **615** **Warsh J.J. and Stancer H.C.** (Canada). The investigation of peripheral 5-hydroxyindoleacetic acid (5-HIAA) as an index of central nervous system (CNS) monoamine metabolism following extracerebral decarboxylase inhibition.

1 : 45 **616** **Lorenzo A.V.** (U.S.A.). The accumulation of 3, 4-dihydroxy-phenylacetic acid by the choroid plexus.

2 : 00 **617** **Sourkes T.L. and Garelis E.** (Canada). The concentration of transmitter metabolites (homovanillic and 5-hydroxyindoleacetic acids) in the cerebrospinal fluid.

2 : 15 **618** **Olsson J-E. and Link H.** (Sweden). Beta-trace protein in CNS: Distribution, synthesis and metabolism.

3 : 45 **624** **Iori A., Kemali D., Vacca L. and Del Vecchio M.** (Italy). Metabolism of biogenic amines in chronic familial schizophrenics.

4 : 00 **625** **Huszák I, Durkó I. and Karsay K.** (Hungary). Studies on the disturbance of the porphyrin metabolism and its relation to kryptopyrrole in schizophrenia.

4 : 15 **626** **Colucci D'Amato F.** (Italy). Metabolical errors of the amino-acids of the sweat in the schizophrenic patients.

4 : 30 **627** **Namima M., Nagata A. and Saito S.** (Japan). Quantitative determination of various electrolytes in the horizontal sections of rats brain.

4 : 45 **628** **Plum C.M.** (Denmark). Free amino acid levels in the cerebrospinal fluid of normal and their variation in cases of epilepsy and Spielmeyer-Vogt-Batten disease.

PLENARY LECTURES

WEDNESDAY MORNING, AUG. 29

GRAND HALL

Chairman: Tsukada Y. (Japan)

9 : 00 **P-1** Schmitt F.O. (U.S.A.)
The role of functional linkage in molecular neurobiology.

9 : 40 **P-2** Hydén H. (Sweden)
Organized complexities and protein response of brain cells.

10 : 20 **P-3** De Robertis E. (Argentina)
Molecular biology of chemical synaptic transmission.

ROOM 1

S-4 NEUROCHEMISTRY AT THE CELLULAR LEVEL

Chairman and Organizer: Hydén H. (Sweden), Kato T. (Japan)
Satake M. (Japan)

9 : 00 Hydén H. (Sweden)
Introduction

9 : 10 **S 4-1** Mandel P., Ciesielski-Treska J., Hermetet J.C., Tholey G., Mack G. and Zwiller J. (France)
Differentiation of neuroblastoma cells in culture.

9 : 30 **S 4-2** Giacobini E. (U.S.A.)
The use of microchemical techniques for the identification of new transmitter in neurons.

9 : 50 **S 4-3** Rose S.P.R.(U.K.)
Cellular compartmentation of brain metabolism and its functional significance.

10 : 10 **S 4-4** Hamberger A., Babitch J., Blomstrand C. and Sellström A. (Sweden)
Evidence for differential function of neuronal and glial cells in protein metabolism and amino acid transport.

10 : 30 —— intermission ——

10 : 45 **S 4-5** Sellinger O.Z., Azcurra J.M., Johnson D.E., Kohl H.H., Ohlsson W.G., Khawaja J.A. and Scicli G.A. (U.S.A.)
Bulk-isolated nerve and glial cells: Their role in cellular neurochemistry.

11 : 05 **S 4-6** Norton W.T., Poduslo S.E., DeVries G.H. and Abe T. (U.S.A.)
The lipid composition of isolated brain cells and axons.

11 : 25 **S 4-7** Tamai Y., Araki S., Komai Y. and Satake M. (Japan)
Lipid distribution of the neuron.

11 : 45 —— general discussion ——

ROOM 2

S-8 REGULATION MECHANISMS IN CNS METABOLISM

Chairman and Organizer: McIlwain H. (U.K.), Sokoloff L. (U.S.A.)
Takagaki G. (Japan)

9:05 **S8-3** **Hawkins R.A., Miller A.L. and Veech R.L.** (U.S.A.)
The acute action of ammonia on rat brain metabolism in vivo. (This paper will be read by Weil-Malherbe H.)

9:30 **S8-1** **Deguchi T.** (U.S.A.)
Role of β-adrenergic receptor in control of serotonin N-acetyltransferase in the pineal gland.

9:55 **S8-5** **Cremer J.E.** (U.K.)
Regulation at substrate level : β-Hydroxybutyrate and acetoacetate.

10-20 – break –

10:35 **Sokoloff L., Fitzgerald G.G., Kaufman E.E. and Grave G.D.** (U.S.A.)
Properties of solubilized, partially purified brain D(-) -β-hydroxybutyric dehydrogenase: Implications to regulation of its activity.

11:00 **S8-6** **Shimizu H.** (Japan)
Purinergic nerve mechanism in the brain: Uptake, storage, release, and adenyl cyclase as a receptor.

11:25 **S8-7** **McIlwain H.** (U.K.)
Regulation cognate to adenine derivatives as neurohumoral agents in the brain.

11:50 **McIlwain H.** (U.K.)
Concluding Remarks

ROUND-TABLE DISCUSSION

THURSDAY MORNING, AUG. 30

ROOM 3

R-8 SYNAPTOSOMES AND SYNAPTIC VESICLES

Chairman and Organizer: Whittaker V.P. (U.K.), Kurokawa M. (Japan)

9 : 00 R8-1 Jones D.G. (Australia)
The integrity of synaptosomes: A morphological approach.

9 : 15 Whittaker V.P. (U.K.)
Uptake of small molecules by synaptosomes. (tentative)

9 : 30 R8-2 Haga T. (Japan)
Two choline uptake systems in synaptosomes.

9 : 45 R8-3 Baker G.B. and Boulton A.A. (Canada)
Subcellular distribution of some labelled amines in the rat brain after intraventricular injection.

10 : 00 —— discussion ——

10 : 10 R8-4 Bock E. and Jørgensen O.S. (Denmark)
Immunochemical investigations on rat brain synaptosomes.

10 : 25 R8-5 Austin L., Rostas J.A., Livett B.G. and Jeffrey P.L. (Australia)
Distribution and antigenicity of synaposomal membranes.

10 : 40 R8-6 Hernández A.G. (Venezuela)
Synaptosomal protein synthesis.

10 : 55 —— discussion ——

11 : 05 R8-7 Kanaseki T. (Japan)
A morphological study of the synaptic and coated vesicles isolated from the nerve endings of vertebrate brain.

11 : 20 Heilbronn E. (Sweden)
Origin of synaptic vesicles. (tentative)

11 : 35 Zimmermann H. and Whittaker V.P. (U.K.)
Fate of synaptic vesicles. (tentative)

11 : 50 —— discussion ——

ROOM 4

R-5 CLINICAL NEUROCHEMISTRY

Chairman and Organizer: Lowenthal A. (Belgium), Tower D.B. (U.S.A.)
Kohsaka M. (Japan)

9 : 00 Lowenthal A. (Belgium)
Introductory Remarks

9 : 05 **R 5-1** Suzuki K. (U.S.A.)
Prenatal diagnosis of neurochemical disorders.

9 : 30 **R 5-2** Tower D.B., Penry J.K. and Kupferberg H.J. (U.S.A.)
Convulsive disorders: Recent advances in the pharmacology of antiepileptic drugs.

10 : 15 —— break ——

10 : 25 **R 5-4** Riekkinen P.J., Rinne U.K. and Arstila A.U. (Finland)
Neurochemical changes at and outside multiple sclerosis plaques: Evidence for initial manifestations as injury of glial cells.

10 : 50 **R 5-5** Lowenthal A. and Karcher D. (Belgium)
Mono- and oligoclonal gammopathy (M-components) in neurological diseases.

11 : 10 **R 5-6** Bourke R.S. and West C.R. (U.S.A.)
Kinetics of entry and distribution of antineoplastic agents in cerebrospinal fluid and brain in the primate.

11 : 35 **R 5-7** West C.R. and Bourke R.S. (U.S.A.)
Experimental cerebrovascular stroke and the development of cerebrocortical edema in the primate.

11 : 55 Tower D.B. (U.S.A.)
Concluding Remarks

ROOM 1

NEURONES AND GLIA-I

1 : 30 **129** **Suzuki O. and Kato T.** (Japan). DNA polymerase activities in isolated neuronal, glial and liver nuclei.

1 : 45 **130** **Cohen J. and Lodin Z.** (U.K. and Czechoslovakia). The bulk separation of cells from rat cerebral cortex and cerebellum by a unit gravity velocity sedimentation technique.

2 : 00 **131** **Higa H. and Takahashi Y.** (Japan). Isolation and some characterization of neuronal cell bodies and neuronal nuclei from bovine spinal cord and cerebral cortex.

2 : 30 **133** **Hinzen D.H. and Gielen W.** (West Germany). Distribution and composition of gangliosides and galactocerebrosides in neuronal and glial cells isolated from rabbit cerebral cortex.

2 : 45 **134** **Bernsohn J. and Cohen S.R.** (U.S.A.). Fatty acid composition of phospholipids of neuronal soma, astrocytes and oligodendrocytes isolated from calf brain.

3 : 00 **135** **Takahashi Y., Araki K. and Kushiya E.** (Japan). Isolation and some characterization of nucleoli from rat and pig brain cortex.

3 : 15 **136** **Sinha A.K., Jones-Lecointe A. and Rose S.P.R.** (U.K.). Isolation and some properties of neuronal and neuropil enriched fractions from one day old chick brain.

3 : 30 **137** **Nagata Y., Mikoshiba K. and Tsukada Y.** (Japan). Developmental changes of enzymic activities of isolated neuronal and glial cell-enriched fractions from the rat brain.

4 : 00 **139** **Inagaki C. and Tanaka C.** (Japan). Evidence for decarboxylation of aromatic amino acid in the glia cell from rat and rabbit brains.

4 : 30 **141** **Oomura Y., Fukuda R. and Sugimori M.** (Japan). Properties of the glucose binding sites on neuron and glia in rat ventromedial hypothalamus and cerebral cortex.

4 : 45 **142** **Yanagihara T.** (U.S.A.). Cerebral anoxia: Protein metabolism in neuron-glia and subcellular fractions of rabbit brain.

ROOM 2

LIPIDS AND LIPIDOSES-I

1 : 30 **229** **Spanner S. and Ansell G.B.** (U.K.). Effects of hemicholinium on choline metabolism in the brain.

1 : 45 **230** **Okuda J., Miwa I. and Fujishima M.** (Japan). A new blue-fluorescent phospholipid extracted from rat brain.

2 : 00 **231** **Hauser G., Eichberg J. and Shein H.M.** (U.S.A.). Effects of compounds with local anesthetic activity on phospholipid metabolism in the rat pineal gland.

2 : 15 **232** **Tsukatani H., Nakano S., Takauchi K. and Okamoto M.** (Japan). Occurrence of a new depressor-active substance (D-I) from bovine brain lipid fraction.

2 : 30 **233** **Gatt S., Barenholz Y., Yedgar S. and Cooper G.V.** (Israel). Hydrolysis of sphingomyelin micelles and liposomes by rat brain sphingomyelinase.

2 : 45 **234** **Yau T.M. and Sun G.Y.** (U.S.A.). The metabolism of [1-^{14}C]-arachidonic acid in the subcellular membranes of mouse brain.

3 : 00 **235** **Izumi F. and Freed S.** (U.S.A.). Binding of acetylcholine to proteolipids from quenched rat brain extracted and fractionated at −60°C.

3 : 15 **236** **Aveldaño de Caldironi M.I. and Bazán N.G.** (Argentina). Differences in the content and composition in diacylglycerols from the retina of the toad, cattle and rabbit.

3 : 30 **237** **Bazán N.G. and Aveldaño de Caldironi M.I.** (Argentina). *In vitro* studies on the free fatty acid (FFA) and triacylglycerol pools of the retina.

3 : 45 **238** **Pappius H.M., Postworowski K. and Wolfe L.S.** (Canada). Failure of prostaglandin $F_{2\alpha}$ ($PGF_{2\alpha}$) to be concentrated and metabolized by cerebral cortex tissue *in vitro*.

4 : 00 **239** **Consolo S., Ladinsky H. and Szymczyk T.** (Italy). A sensitive radiochemical method for the determination of acetyl coenzyme A in brain.

4 : 15 **240** **Freed S.** (U.S.A.). Biochemical correlates of physiological states.

ROOM 3

TRANSMITTERS

1 : 30 329 **Heilbronn E., Karlsson E., Mattson Chr. and Widlund L.** (Sweden). Continued isolation and characterization studies on the cholinergic receptor from the electric organ of *Torpedo marmorata.*

1 : 45 330 **Rozental J.M. and Norris D.M.** (U.S.A.). Energy transduction between a proteinaceous neuroreceptor and feeding inhibitory naphthoquinones.

2 : 00 331 **Konishi S., Takahashi T. and Otsuka M.** (Japan). Occurrence of a motoneuron-depolarizing peptide in the dorsal roots of bovine spinal nerves and its identification as hypothalamic substance P.

2 : 15 332 **Kelly J.S., Gottesfeld Z., Schon F. and Iversen L.L.** (U.K.). Glutamic acid decarboxylase (GAD I), GABA and uptake of [H^3]-GABA in the rat spinal cord following unilateral dorsal root section.

2 : 30 333 **Kanazawa I., Miyata Y., Toyokura Y. and Otsuka M.** (Japan). Mapping of the distribution of γ-aminobutyric acid (GABA) in the human substantia nigra and globus pallidus.

2 : 45 334 **Timiras P.S., Hudson D.B. and Oklund S.** (U.S.A.). Changes in brain GABA levels in the developing and aging rat.

3 : 00 335 **Okada Y.** (Japan). Distribution of γ-aminobutyric acid (GABA) in the layers of superior colliculus.

3 : 15 336 **Graham L.T., Jr. and Pong S.F.** (U.S.A.). Distribution of the GABA system in the olfactory bulb of the rat.

3 : 30 337 **Kimura H. and Kuriyama K.** (Japan). Distribution of gamma-aminobutyric acid system in rat hypothalamus.

4 : 15 340 **Drujan B.D. and Ciarletta E.** (Venezuela). The effect of light and darkness on the metabolism of adrenaline, γ-aminobutyrate, glutamate and aspartate in the visual system of the teleost *Eugerres plumieri.*

4 : 45 342 **Ehrenpreis S. and Greenberg J.** (U.S.A.). Involvement of a prostaglandin system in block of contractions of guinea pig ileum by morphine, indomethacin and acetylsalicylic acid.

ROOM 4

CHEMICAL PATHOLOGY-III

1 : 30 **429** **Reis D.J., Ross R.A. and Joh T.H.** (U.S.A.). Changes in catecholamine synthesizing enzymes in central noradrenergic neurons of the locus coeruleus during the retrograde reaction to cell damage.

1 : 45 **430** **Garbarg M., Krishnamoorthy M.S., Feger J. and Schwartz J.C.** (France). Alterations in hypothalamic histamine induced by diencephalic lesions.

2 : 00 **431** **Abe H., Ito T., Tashiro K. and Tsuru M.** (Japan). Activities and responces of lysosomal enzymes in nitrosamine-induced nervous system tumors of rats.

2 : 15 **432** **McGeer P.L., Fibiger H.C. and McGeer E.G.** (Canada). Changes in amine synthesizing enzymes following lesions to the basal ganglia.

2 : 30 **433** **Hirose G. and Bass N.H.** (U.S.A.). Glial cell proliferation in rat optic nerve during anterograde Wallerian degeneration : A quantitative histochemical study.

2 : 45 **434** **Naftchi N.E., Demeny M., Viau A.T. and Lowman E.W.** (U.S.A.). Changes in central and peripheral biogenic amines and cyclic AMP in spinal cord injury.

3 : 00 **435** **Komai Y., Araki S., Nagano Y. and Satake M.** (Japan). DNA and RNA increases in the adult rat brain induced by hemispherectomy.

NEUROENDOCRINE INTERACTION

3 : 15 **436** **Hiroshige T.** (Japan). Sex difference in circadian rhythm of corticotropin-releasing activity in the rat hypothalamus.

4 : 00 **439** **Nomura M. and Tsukada Y.** (Japan). Hormonal effects on chemical make-up of the developing rat brain.

4 : 15 **440** **Malone M. J., Rosman N. P. and Szoke M.** (U.S.A.). The effect of thyroid deficiency on myelination.

4 : 30 **441** **Holtzman D. and Moore C. L.** (U.S.A.). Oxidative phosphorylation and respiration in brain mitochondria from normal and hyperthyroid rats.

ROOM 5

BEHAVIOUR AND METABOLISM

1 : 30 529 **Kariya T., Kobayashi K., Ichihashi H. and Nakagawara M.** (Japan). Neurochemical and behavioral studies of lithium during the drug induced excitation in animals.

1 : 45 530 **Howard B. D. and Merriam J. R.** (U.S.A.). Biochemical genetics of the nervous system of *Drosophila melanogaster*.

2 : 00 531 **Mack G., Greilsamer J., Kempf E. and Mandel P.** (France). Neurochemical correlates of genetically determined differences in performance levels in mice.

2 : 30 533 **Gobert J. and Temmerman J.** (Belgium). Piracetam-induced increase of the rat brain energetic metabolism and of the polyribosome/ribosome ratio in old rats.

3 : 00 535 **Kameyama T. and Shigehisa T.** (Japan). Correlation between the 5-hydroxytryptamine levels in the brain and degrees of sensory activity, emotionally and spontaneous motor activity in the rat.

3 : 15 536 **Martin I. L., King A.R. and Melville K.A.** (U.K.). Effects of LSD-25 on brain amine levels and discrimination learning in rats.

3 : 45 539 **Ishikawa K., Akiyama M., Taniguchi K. and Saito S.** (Japan). The effect of chlorpromazine, reserpine and amphetamine on rats learning ability.

4 : 00 540 **Hooghe-Peters E.L.** (Belgium). L-Asparaginase induces long term memory impairment in Balb/c mice.

4 : 15 541 **Tiplady B.** (U.K.). Brain protein metabolism and exercise : Involvement of a rapidly labelled protein fraction.

4 : 30 542 **Schweitzer J.W., Stone E.A. and Friebhoff A.J.** (U.S.A.). Increased *in vitro* *O*-methylation in swim stressed rats.

ROOM 6

DRUG ACTION-I

1 : 30 **629** **Clarke D.D., Ronan E.J., Tirr L. and Dicker E.** (U.S.A.). Ethanol metabolism in mouse cerebral cortex.

1 : 45 **630** **Mukherji B., Kashiki Y., Ohyanagi H. and Sloviter H.A.** (U.S.A.). Metabolism of ethanol and acetaldehyde by the isolated perfused rat brain.

2 : 00 **631** **Post M.E., Samorajski T. and Sun A.Y.** (U.S.A.). The effects of long-term ethanol ingestion on brain catecholamine levels.

2 : 30 **633** **Sun A.Y.** (U.S.A.). Active uptake of norepinephrine by synaptosomes : The effect of alcohols.

2 : 45 **634** **Egaña E. and Rodrigo R.** (Chile). Filial and permanent alcoholism ("A.G." rats) and CNS alcohol : Oxidoreductase activity.

3 : 00 **635** **Ho I.K., Brase D.A., Loh H.H. and Way E.L.** (U.S.A.). Serotonergic destruction and blockade on morphine tolerance and physical dependence.

3 : 15 **636** **Kaneto H., Kaku T. and Koida M.** (Japan). Inhibitory effect of morphine on synaptosomal Ca^{++}-activated ATPase and its absence in morphinized mice.

3 : 30 **637** **Koida M., Nakajima T. and Kaneto H.** (Japan). Comparison of electrophoretic patterns of brain synaptosomal proteins from salinized and morphinized mice.

4 : 00 **639** **Joh T.H. and Reis D.J.** (U.S.A.). Demonstration by use of a specific antibody that reserpine increases the accumulation of tyrosine hydroxylase protein in adrenal medulla and sympathetic ganglia transynaptically.

4 : 30 **641** **Sekizawa Y.** (Japan). Drug action mechanism of 2-amino-4-phenylthiazole, a piscine anesthetic, upon carp central nervous system.

4 : 45 **642** **Tickner T., Goldberg V., Millard R.B. and Lascelles P.T.** (U.K.). Tissue mass spectral analysis for diphenyhydantoin and metabolites.

ROOM 1

S-6 IMPLICATION OF CYCLIC 3′, 5′-NUCLEOTIDES IN NEURAL FUNCTION

Chairman and Organizer: Costa E. (U.S.A.), Greengard P. (U.S.A.), Rall T.W. (U.S.A.), Kakiuchi S. (Japan), Miyamoto E. (Japan)

9 : 00 **S6-1** Perkins J. P. (U.S.A.)
The regulation of cyclic AMP content of normal and malignant brain cells.

9 : 20 **S6-2** Bitensky M. W. (U.S.A.)
Ionic environment and the light sensitive adenyl cyclase of rod outer segments.

9 : 40 **S6-3** Nakazawa K. and Sano M. (Japan)
Guanyl cyclase in the rat brain.

10 : 00 **S6-4** Bloom F. E., Hoffer B. J., Siggins G. R. and Battenberg E.F. (U.S.A.)
Cyclic AMP and the inhibition of cerebellar Purkinje cells by noradrenergic synapses.

10 : 20 **S6-5** Guidotti A. and Costa E. (U.S.A.)
Regulation of tyrosine hydroxylase activity by changes of adenosine 3′, 5′-monophosphate concentrations in rat adrenal medulla.

10 : 40 **S6-6** Nishizuka Y., Inoue Y., Matsumura S., Yamamura H., Kumon A., Nishiyama K. and Shimomura R. (Japan)
Multiplicity of protein kinases and mode of action of adenosine 3′, 5′-monophosphate in rat brain.

11 : 00 **S6-7** Greengard P. (U.S.A.)
Cyclic nucleotides, protein phosphorylation and the regulation of function in nerve cells.

11 : 20 **S6-8** Kakiuchi S., Yamazaki R., Teshima Y. and Uenishi K. (Japan)
Cyclic 3′, 5′-nucleotide phosphodiesterase from rat brain : Regulation of the activity by calcium ion and the modulator.

11 : 40 **S6-9** Rall T. W. (U.S.A.)
The role of cyclic nucleotides in the nervous system.

ROOM 2

S-5 NUCLEIC ACID AND PROTEIN METABOLISM IN THE DEVELOPING BRAIN

Chairman and Organizer. Davison A. N. (U.K.), Hirano S. (Japan), Naruse H. (Japan)

9 : 00 **S5-1** Altman J. (U.S.A.)
Postnatal cell proliferation in the mammalian nervous system.

9 : 30 **S5-2** Sung S. C. (Canada)
DNA metabolism in the developing brain.

10 : 30 Moore B. W. (U.S.A.)
Changes in proteins during ontogeny.

11 : 00 **S5-4** Balázs R., Kovács S. and Patel A. J. (U.K. and Hungary)
Hormonal influences on nucleic acid and protein metabolism in the brain.

11 : 30 **S5-5** Jílek L., Sirakova J., Haber B. and Stipek Š. (Czechoslovakia)
Hypoxic changes in protein metabolism and amino acid-carbohydrates relationships during ontogeny.

ROUND-TABLE DISCUSSION

FRIDAY, MORNING, AUG. 31

ROOM 3

R-2 PRECURSORS OF BIOGENIC AMINES

Chairman and Organizer: Pletscher A. (Switzerland), Sano I. (Japan)

9 : 00 **R2-1** Pletscher A. (Switzerland)
Introductory Remarks: Aromatic amino acids as precursors for catecholamines in rat brain.

9 : 20 **R2-2** Sourkes T. L. (Canada)
Tryptophan, α-methyltryptophan and 5-hydroxyindoles in the central nervous system.

10 : 00 **R2-3** Sano I. (Japan)
The effects of L-5-hydroxytryptophan on patients with endogenous depression and morbus Parkinson.

10 : 20 —— break ——

10 : 35 **R2-6** Gessa G. L. (Italy)
Role of free serum tryptophan in controlling brain serotonin synthesis.

10 : 55 **R2-4** Ichiyama A. and Hori S. (Japan)
Studies on tryptophan 5-monooxygenase.

11 : 15 **R2-5** Muenter M. D., Sharpless N. S., Tyce G. M. and Dinapoli R.P. (U.S.A.)
3-*O*-Methyldopa in treatment of Parkinson's disease.

11 : 35 —— general discussion ——

ROOM 4

R-3 ION METABOLISM IN THE BRAIN

Chairman and Organizer: Hertz L. (Denmark), Nagata Y. (Japan)

9 : 00 **R3-1** Hertz L. (Denmark)
Role of glial cells in potassium homeostasis.

9 : 25 **R3-2** Roots B. I. (Canada)
Anatomical basis for ion exchange in the brain.

9 : 50 **R3-3** Franck G. (Belgium)
Ion contents and fluxes in brain slices.

10 : 15 —— break ——

10 : 30 **R3-4** Latzkovits L. (Hungary) and Sensenbrenner M. (France)
Ion fluxes in cultures of dissociated brain cells.

10 : 55 **R3-5** Takagaki G. (Japan)
Multiple effect of potassium ions on glucose metabolism in cerebral tissue.

11 : 20 **R3-6** Bourke R. S. (U.S.A.)
Evidence for K^+-dependent mediated transport of chloride into astroglia : Role of astroglia in the spacial buffering of extracellular K^+ and cerebrocortical edema.

11 : 45 —— general discussion ——

ROOM 1

NEURONES AND GLIA-II

1 : 30 143 **Poduslo S.E. and Norton W.T.** (U.S.A.). The isolation and chemical characterization of a plasma membrane and a myelin fraction from oligodendroglia.

1 : 45 144 **Dittmann L. and Hertz L.** (Denmark); **Sensenbrenner M. and Mandel P.** (France). Respiration by isolated neurons and glial cells.

2 : 00 145 **Kurokawa M., Tashiro T., Mizobe F. and Setani N.** (Japan). Characteristics of cerebral chromatin.

2 : 15 146 **Rose S.P.R., Richardson K. and Sinha A.K.** (U.K.). Cellular and protein-synthetic specificity of enhanced incorporation of ^{3}H-lysine into protein in visual cortex on first exposure to light.

CYCLIC NUCLEOTIDES

2 : 30 147 **Ortega B.G.C., Anton-Tay F., Esparza N.A. and Cancino F.M.P.** (Mexico). Melatonin : Effect on cAMP concentration in the brain.

2 : 45 148 **Mao C.C., Guidotti A. and Costa E.** (U.S.A.). Changes of adenosine 3′ 5′ monophosphate (cAMP) and guanosine 3′ 5′ monophosphate (cGMP) concentrations in various neuronal tissues of rats exposed to 4°C.

3 : 15 150 **Shimazu T. and Amakawa A.** (Japan). Autonomic nervous system as a modulator of liver glycogen metabolism and its action mechanism.

3 : 30 151 **Rodnight R. and Weller M.** (U.K.). Modulation by Ca^{2+} of the stimulation by cyclic AMP of intrinsic protein kinase activity in synaptosome membrane fragmemts.

3 : 45 152 **Asakawa T. and Yoshida H.** (Japan). NaF- and ATP- induced structure changes of membrane and adenyl cyclase activity in chick brain microsomes.

4 : 00 153 **Hambley J.W. and Rose S.P.R.** (U.K.). Effect of early visual experience on adenyl cyclase in avian brain.

4 : 15 154 **Itoh T. and Sawami K.** (Japan). Effects of cyclic adenosine monophosphates on ribonucleic acid biosynthesis in brain.

ROOM 2

LIPIDS AND LIPIDOSES-II

1 : 30 243 **González-Sastre F., Pampols T. and Sabater J.** (Spain). The developing human brain : Lipid composition of the premature infant CNS.

1 : 45 244 **Lin Y.Y. and Smith L.L.** (U.S.A.). Biosynthesis of cholest-5-ene-3, 24-diol (cerebrosterol) by rat brain homogenates.

2 : 00 245 **Hayashi K.** (Japan). Interaction of gangliosides with proteins.

2 : 15 246 **Israel M.A., Miyatake T. and Suzuki K.** (U.S.A.). Forssman hapten *N*-acetyl-α-D-galactosamindase in rat brain and kidney.

2 : 45 248 **Seyama Y. and Yamakawa T.** (Japan). Multiple components of β-N-acetylhexosaminidase as related to gangliosidosis.

3 : 00 257 **Shichi H.** (U.S.A.) Phospholipid and conformation of the visual pigment rhodopsin.

3 : 15 250 **Sugita M., Connolly P., Dulaney J. and Moser H.** (U.S.A.). A new sphingolipidosis : Farber's disease. Ceramide accumulation and acid ceremidase deficiency in cerebellum.

3 : 30 251 **Berra B., Brunngraber E.G., di Palma S. and Zambotti V.** (Italy and U.S.A.). Brain glycopeptides and gangliosides in GM_1 gangliosidosis.

3 : 45 252 **Yamamoto A., Adachi S., Kawamura S., Otori T. and Nishikawa M.** (Japan). Galactosidase deficiency in a case of myoclonus epilepsy.

4 : 00 253 **Yokoi S. and Ogino T.** (Japan). Studies on glycolipid of the brain of three adult cases of leucodystrophy.

4 : 15 254 **Suzuki Y., Fletcher T.F. and Suzuki K.** (Japan and U.S.A.). Mutant β-galactosidase in globoid cell leukodystrophy.

4 : 30 255 **Eto Y., Wiesmann U. and Herschkowitz N.** (Switzerland). The chemical and enzymic studies of the variant form of metachromatic leukodystrophy with multiple sulfatase deficiencies.

4 : 45 256 **Kawamura N. and Taketomi T.** (Japan). Analysis of lipids in sudanophilic leukodystrophy.

ROOM 3

SYNAPTOSOMES

1 : 30 343 **Zimmermann H. and Whittaker V.P.** (U.K.). The effect of stimulation on the composition and yield of cholinergic synaptic vesicles.

1 : 45 344 **Raiteri M., Bertollini A., Chen J. and Levi G.** (Italy). Effects of anti-synaptosome sera on the permeability of synaptosomal membranes to GABA and norepinephrine (NE).

2 : 00 345 **Aprison M.H., McBride W.J., Daly E.C. and Tachiki K.H.** (U.S.A.). Net uptake and metabolism of glycine by synaptosomes (P_2) isolated from specific CNS areas.

2 : 15 346 **Bruinvels J.** (Netherlands). Differences in the uptake of noradrenaline and tyrosine by synaptosomes *in vitro*.

2 : 30 347 **Swanson P.D. and Stahl W.L.** (U.S.A.). Calcium uptake by rat brain synaptosomes.

2 : 45 348 **Yoshida H.** (Japan). Binding and release of calcium from the synaptic membrane.

3 : 00 349 **Van den Berg C. and Reijnierse G.L.A.** (Netherlands)
The heterogeneity of brain mitochondria in adult brain.

4 : 00 353 **Kuroda Y. and McIlwain H.** (U.K.). Incorporation and release of adenosine derivatives in guinea pig neocortical tissues and derived synaptosomes.

4 : 15 354 **Schwartz J.C., Baudry M. and Martres M.P.** (France). The subcellular localization of histidine decarboxylase (HD) in various regions of rat brain.

4 : 30 355 **Ichikawa T., Kobayashi H., Iwata T. and Ishii S.** (Japan). Separation and identification of granules carrying neurotransmitters in the pars nervosa.

ROOM 4

NEUROLOGICAL DISORDERS

2 : 30 447 **Iqbal K. and Tellez-Nagel I.** (U.S.A.). Protein changes in Huntington's disease.

2 : 45 448 **Philippart M., Kamensky E., Zeilstra K., Nakatani S. and Sugarman G.** (U.S.A.). Study on cultured peripheral nerve from Roussy-Levy's disease.

3 : 00 449 **Cooper J.R. and Pincus J.H.** (U.S.A.). Treatment of Leigh's disease (subacute necrotizing encephalomyelopathy) with thiamine derivatives.

3 : 15 450 **van Gelder M.M.** (Canada). The biochemistry of epilepsy.

3 : 30 451 **Masuda H., Nishi K., Takeuchi M., Kunitake A. and Anraku S.** (Japan). Isolation and characterization of glycopeptides drom the urine of myoclonus epilepsy (Lafora-body type).

3 : 45 452 **Tye L.C., Mogami H., Jinnai D. and Mori A.** (Japan). Guanidino compounds in the mammalian brain.

4 : 00 453 **Cherayil G.D.** (U.S.A.). Lipid composition of human brain meningiomas and medulloblastoma.

4 : 15 454 **Kawakami S., Kurihara T., Ueki K. and Takahashi Y.** (Japan). 2', 3' -Cycli nucleotide 3' -phosphohydrolase in brain tumours.

4 : 30 455 **Chida N., Hirono H. and Arakawa T.** (Japan). Decrease in long chain hydroxy fatty acids of myelin cerebroside in formiminotransferase deficiency and the effects of folate deficiency on the metabolism of cerebroside fatty acids.

4 : 45 456 **Yoshino M., Kuhara T., Tetsuo M., Igarashi T. and Matsumoto I.** (Japan). Mental retardation associated with massive excretion of succinic acid in urine.

ROOM 5

DEVELOPMENT

1 : 30 543 **Yamagami S., Kiriike N. and Kawakita Y.** (Japan). Effect of neonatal thyroidectomy on thymidine metabolism and deoxyribonucleic acid synthesis in the developing rat cerebellum.

1 : 45 544 **Piha R.S. and Valkonen K.** (Finland). Brain histones during fetal development.

2 : 00 545 **Suda H., Noguchi T. and Tsukada Y.** (Japan). Studies on DNA polymerase in the developing rat cerebrum.

2 : 15 546 **Noguchi T., Suda H. and Tsukada Y.** (Japan). The changes of DNase activity in the developing rat cerebrum.

2 : 30 547 **Fitzgerald G.G., Kaufman E.E. and Sokoloff L.** (U.S.A.). Partial purification and properties of rat brain D-β-hydroxybutyrate dehydrogenase.

2 : 45 548 **Takagaki G.** (Japan). Developmental changes of glucose metabolism in rat cerebral tissue.

3 : 00 549 **Patel A.J. and Balazs R.** (U.K.). Effect of undernutrition on the biochemical development of the brain.

3 : 15 550 **Agrawal H.C. and Prensky A.L.** (U.S.A.). Differential incorporation of ^{14}C derived from glucose and acetate into proteins of developing brain.

3 : 30 551 **Naruse H., Komatsu S., Nagayama M. and Miyamoto K.** (Japan). Changes in protein metabolism in the brain induced by neonatal anoxia in rat.

4 : 00 553 **Schoelermann S. and Egaña E.** (Chile). Action of different e donors on the developing CNS mitochondria respiratory chain: Effects of whole-body gamma (^{60}Co) irradiation.

4 : 15 554 **Matsutani T., Tsukada Y., Koya G. and Matsuyama H.** (Japan). Neurochemical studies on lysosomal enzymes in methyl-azoxymethanol-treated foetal rat brain.

4 : 30 555 **Maura G., Vaccari A., Gemignani A. and Cugurra F.** (Italy). Development of monoamine oxidase activity after chronic environmental stress in the rat.

ROOM 6

DRUG ACTION-II

1 : 30 643 **Gomez M. V., de Andrade D. S. and Diniz C. R.** (Brasil)) Effect of scorpion venom neurotoxin on sodium influx into rat brain cortex *in vitro*.

2 : 30 647 **Ortega B. G., Carranza J. A., Ramirez A. B. and Castro G. O.** (Mexico). Chronical effects of d-amphetamine, DOM (2, 5-dimethoxy-4-methylamphetamine), and TMA (2, 3, 4-trimethoxy-amphetamine).

2 : 00 645 **Bartholini G., Lloyd K. G. and Stadler H.** (Switzerland). Neuroleptic drugs : Differential effect on acetylcholine release in extrapyramidal and limbic systems.

2 : 15 646 **Magyar K. and Knoll J.** (Hungary). Further investigations on the mode of action of *p*-bromomethamphetamine.

1 : 45 644 **Otsuki S., Watanabe S. and Ogata M.** (Japan). Neurotoxicity of clioquinol and its distribution, metabolism in animals.

2 : 45 648 **Kim J. S., Hassler R. and Bak I. J.** (West Germany). Effect of 6-hydroxydopamine on acetylcholine metabolism in rat striatum.

3 : 00 649 **Gatti G.L., Bonavoglia F. and Michalek H.** (Italy). Brain acetylcholine levels in diazepam attenuation of DFP toxicity in mice.

3 : 15 650 **Ladinsky H., Consolo S., Gessaroli L. and Garattini S.** (Italy). Effect of several anti-Parkinson drugs on acetylcholine and choline levels of rat corpus striatum.

3 : 45 652 **Kanig K.** (West Germany). Influence of pyritinol and other central acting drugs on RNA metabolism of rat brain.

4 : 00 653 **Naito K., Kimura H. and Kuriyama K.** (Japan). Changes in activity of cerebral hexose monophosphate pathway following application of electrical pulse *in vitro*.

8. 後　記

★　第4回国際神経化学会議も盛会裡に終ることが出来ました。この成果が日本の神経化学研究に有益に反映することを期待するものです。

★　本年度第16回日本神経化学会プログラム編成委員会が東京で行なわれ応募演題39件の中，35演題が採用されました。

又前夜祭「ライフサイエンスと神経化学」が行なわれることが決りました。社会の構成員の一人として，人類の繁栄を祈る一人として，ライフサイエンスの立場から神経化学を考える良い機会だと考えます。

多数の御参加と御討論を希望します。

★　本誌は総会の資料となりますので，総会当日は御持参下さいますようお願い申し上げます。

（野口鉄也）

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