

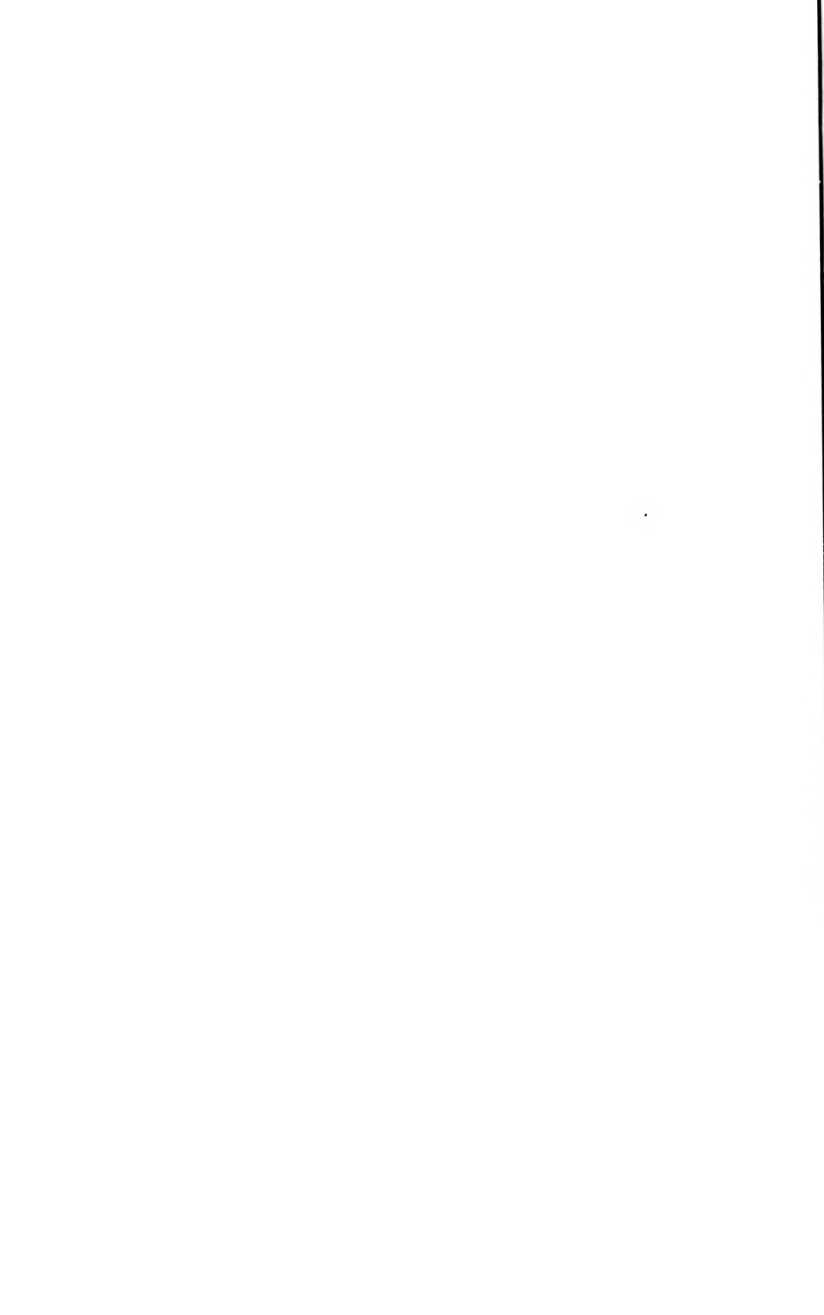


Issued by the Hubrecht Laboratory
on behalf of the
Foundation

„General Embryological Information Service”

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INTRODUCTION

Subscribers are now receiving the seventh full issue, containing the new data received during 1957. The number of individual collaborators and that of collaborating institutes still shows a gradual rise. Contacts have been established with Bulgaria, Hong Kong, Hungaria and Rumania.

In January, 1958, the General Embryological Information Service will be established as a separate foundation, which will be placed under the control of the Embryological Committee of the Royal Dutch Academy of Sciences. The editorial work and administration will remain in the hands of the staff of the Hubrecht Laboratory.

The aims of the new foundation falling entirely in line with the general objectives of the International Institute of Embryology, the Board of the foundation will gratefully consider suggestions for improvement of this Service from the side of the I.I.E. or of its individual members.

Following a suggestion of the General Assembly of the International Institute of Embryology, in this issue a new chapter is opened, supplying data on *new technical methods in developmental biology* (see page 194). We have received a satisfactory number of answers on the questionnaire concerned, and expect that this number will increase in following years when the chapter will have shown its usefulness. This chapter will only be published in the full issues, so that each time it covers a period of two years. Suggestions for improvement will be appreciated.

As a result of an agreement with the „International Committee on Laboratory Animals” we have decided henceforth to omit from the *”Supply and Demand Service for Laboratory Animals”* the information concerning birds and mammals, those groups being covered much more extensively by the programme of this Committee (see page 199).

The previous *”reviews of recently published books”* have been given a simpler form, viz. that of announcements, which give just so much factual information about the books, as will enable the reader to form an idea of their significance.

P. D. NIEUWKOOP

LIST OF NAMES AND ADDRESSES

with Subjects in Preparation

(alphabetical order)

- ABELOOS, M. Prof. — Lab. de Zool. génér. de la Fac. des Sci. et Stat. marine d'Endoume (Marseille), Place Victor Hugo, MARSEILLE, France
- ABERCROMBIE, M. B.Sc., M.A., F.I.I.E. — Dept of Embryol., Univ. Coll. London, Gower St, LONDON W.C. 1, England
- Transplantation experiments on blastoderm tissue culture. *Gallus domesticus* (Aves)
 - Study of cell relations in tissue culture. *Gallus domesticus* (Aves) (in collaboration with Miss H. M. KARTHAUSER)
- ADAMS, Miss E. C. B.A. — Dept of Pathol., Harvard Med. School, 25 Shattuck St, BOSTON 15, Mass., U.S.A.
- Histochemical observations on early fertilized ova of less than 14 days age. *Homo sapiens* (Primates) (in collaboration with J. ROCK, W. J. MULLIGAN and A. T. HERTIG)
 - Histochemical studies on developing embryos. *Homo sapiens* (Primates) (in collaboration with A. T. HERTIG and D. G. McKAY)
 - Histochemical studies on abnormal trophoblast with special reference to hydatidiform mole and chorionepithelioma. *Homo sapiens* (Primates) (in collaboration with D. G. McKAY, K. BENIRSCHKE, W. BARDAWIL and A. T. HERTIG)
- ADAMS, W. E. B.Med.Sc., Ch.B., M.B., M.Sc., Ph.D., F.A.Z., Prof. — Anat. Dept, Univ. of Otago Med. School, Great King Street, P.O. Box 913, DUNEDIN, New Zealand
- Development of the carotid arch. *Sphaerodactylus argus* (Lacertilia), various spp. (Mammalia)
- ADAMSTONE, F. B. Ph.D., Prof. — Dept of Zool., Univ. of Illinois, URBANA, Ill., U.S.A.
- ADELMANN, H. B. Dr, F.I.I.E., Prof. — Dept of Zool., Cornell Univ., ITHACA, N.Y., U.S.A.
- ADHIKARI, S. B.Sc. (Hons) — Dept of Zoology, Presidency Coll., College St, CALCUTTA 12, India
- Cellular factors in morphogenesis. *Gallus gallus* (Aves) (in collaboration with S. MOOKERJEE)
- AGRELL, I. P. S. Dr Fil. — Zoophyiol. Inst., Univ. of LUND, Sweden
- AKESSON, B. Fil.lic. — Embryol. Dept, Zool. Inst. of the Univ. of Lund, LUND, Sweden
- AKETA, K. M.A. — Biol. Inst., Fac. of Sci., Nagoya Univ., Chigusa-Ku, NAGOYA, Japan
- Biochemistry of fertilization with special reference to carbohydrate and carboxylic acid metabolism. *Hemicentrotus pulcherrimus*, *Pseudocentrotus depressus* (Echinoidea)
 - Cytochemistry and biochemistry of egg mitochondria. *Hemicentrotus pulcherrimus*, *Pseudocentrotus depressus* (Echinoidea), *Oryzias latipes* (Teleostei)

- ALAMELU, Miss M. G. B.Sc. (Hons) — Dept of Zoology, Presidency Coll., College St. CALCUTTA 12, India
- a. Effect of chemical transport in morphogenesis. *Amoeba* spec. (Protozoa) (in collaboration with S. MOOKERJEE)
- ALBRIGHT, J. F. — Dept of Zool., Indiana Univ., BLOOMINGTON, Ind., U.S.A.
- ALDEN, R. H. Ph.D., Prof. — Div. of Anat., Med. Units Div., Fac. of Biol. Sci., Univ. of Tennessee, MEMPHIS 3, Tenn., U.S.A.
- a. Study of egg transport and implantation; early development of trophoblast; embryo-maternal relationships during nidation. *Mus* spec. (Rodentia)
- ALEXANDER, G. M.Agr.Sci. — Div. of Animal Health and Production, C.S.I.R.O., Sheep Biol. Lab., Great Western Highway, (P.O. Box 144, Parramatta), PROSPECT, N.S.W., Australia
- a. Investigations of the physical and physiological relations between maternal and embryological tissues. *Ovis* spec. (Artiodactyla)
- ALKEMADE, Miss E. C. M. — Lab. for Cytol. and exper. Histol., Fac. of Med., Univ. of Leyde, Rijnsburgerweg 10, Boerhaavekwartier, LEIDEN, Holland
- a. Bone formation of the terminal phalanx. *Homo sapiens* (Primates)
- ALLANSON—BAXTER, Mrs. M. B.Sc., Ph.D. — Biol. Dept., Med. School, St Mary's Hosp., Paddington, LONDON W. 2, England
- ALONSO, Miss M. — Ist. di Zool., Via Archirafi 18, PALERMO, Italia
- a. Transplantation of neural crest between varieties. *Discoglossus pictus* (Anura)
- ALTSCHUL, R. M.D., Prof. — Dept of Anat., Univ. of Saskatchewan, SASKATOON, Canada
- a. Tissue culture. Influence of biostimulators on cell growth.
- AMANUMA, A. M.Sc. — Lab. Exper. Embryol., Inst. of Polytechn., Osaka City Univ., Minami-Ogimati, Kita-ku, OSAKA, Japan
- AMOROSO, E. C. — Dept of Anat., Harvard Univ., Med. School, 25 Shattuck St, BOSTON 15, Mass., U.S.A.
- AMPRINO, R. M. M.D., Prof. — Inst. of human Anat., Fac. of Med., Policlinico, BARI, Italy
- a. Relations between ectoderm and mesoderm in the morphogenesis of the wing. *Gallus domesticus* (Aves)
 - b. Regulative capacities of the wing anlage. *Gallus domesticus* (Aves)
 - c. Regulative and regenerative capacities of the primary optic vesicle. *Gallus domesticus* (Aves)
- AMY, R. L. M.S., Ph.D. — Biol. Dept, Susquehanna Univ., SELINS-GROVE, Pa, U.S.A.
- a. An action spectrum study of the effects of monochromatic ultraviolet light on early developmental stages. *Habrobracon juglandis* (Hymenoptera)
 - b. Relative sensitivity of various developmental stages to ultraviolet light (photoreactivation studies to be included). *Habrobracon juglandis* (Hymenoptera)
- ANCEL, P. A. Dr, F.I.I.E., Prof. (Honor., Emer.) — Inst. de Biol. physico-chimique, Fac. de Méd., 13 Rue Pierre Curie, PARIS Ve, France
- ANDERS, G. Dr Phil. — Zool.-vergl. Anat. Inst., Naturw. Fak., Univ. Zürich, Künstlergasse 16, ZÜRICH 6, Schweiz

- ANDO, S. B.Sc., M.A. — Biol. Inst., Fac. of Sci., Nagoya Univ., Chigusa-Ku, NAGOYA, Japan
- Physiological analysis of maturation. *Oryzias latipes* (Teleostei)
 - Metabolic analysis of fertilization and early development. *Hemicentrotus pulcherrimus* (Echinoidea)
- ANDRES, G. Dr — Max Planck-Inst. für Biol., Spemannstr. 34, TÜBINGEN, Deutschland
- Untersuchung von Wachstumskorrelationen. (*Anura*), *Gallus* spec. (*Aves*)
 - Untersuchungen über die Entwicklung von Farbmustern mit Hilfe xenoplastischer Transplantationen. *Bombinator* spec., *Discoglossus* spec., *Hyla* spec., *Rana* spec., *Xenopus* spec. (*Anura*)
- ANDRES, M. Y. D.V.M., M.Sc. — Dept of Vet. Anat., Ohio State Univ., COLUMBUS 10, Ohio, U.S.A.
- Physiology of the developing pineal organ. (*Aves*)
- ANDREW, Miss A. B.Sc., M.Sc. — Dept of Anat., Univ. of the Witwatersrand, Milner Park, JOHANNESBURG, South Africa
(no embryological work in progress)
- ANTON, H. J. Dr — Zool. Inst. der Univ. Köln, Kerpenerstr. 13. KÖLN-LINDENTHAL, Deutschland
- Die Regenerationsleistungen heteroplastischer Keimblattchimären. *Triturus vulgaris*, *T. cristatus*, *T. alpestris* (*Urodela*)
 - Unverträglichkeitsreaktionen bei heteroplastischen Transplantationen. *Triturus vulgaris*, *T. cristatus*, *T. alpestris* (*Urodela*)
- ARIËNS KAPPERS, J. M.D., Prof. — Anat.-Embryol. Lab. der Rijks Univ., Oostersingel 69, GRONINGEN, Holland
- Cytological and histochemical development of choroid plexus. *Homo sapiens* (*Primates*)
- ARMSTRONG, P. B. B.S., M.D., Prof. — Dept of Anat., School of Med., State Univ. of New York, 766 Irving Ave, SYRACUSE 10, N.Y., U.S.A.
- Function in the developing liver. *Ambystoma punctatum* (*Urodela*), *Amiurus nebulosus* (*Teleostei*)
 - Behavioral responses in developing embryos. *Ambystoma punctatum* (*Urodela*), *Amiurus nebulosus* (*Teleostei*)
- ARSLAN, M. B.Sc.Hons. — Dept of Zool., Government Coll., LAHORE, Pakistan
- Reproduction and development. *Funambulus palmarum* (*Sciuromorpha*, *Rodentia*)
- ASAYAMA, S. M.Sc., D.Sc., Prof. — Lab. Exper. Embryol., Inst. of Polytechn., Osaka City Univ., Minami-Ogimati, Kita-ku, OSAKA, Japan
- ASHLEY, G. T. B.Sc., Ch.B., M.D. — Anat. Dept, The University, MANCHESTER, England
- Normal and abnormal development of thoracic and pelvic viscera. Various spp. (*Vertebrata*)
- ASSENMACHER, I. Dr en Méd. — Lab. d'Histophysiologie, Coll. de France, Place Marcelin Berthelot, PARIS Ve, France
- Développement et physiologie de l'hypothalamus et de l'hypophyse. *Anas* spec. (*Aves*)

- ASTAUROV, B. L. Dr Biol. Sci., F.I.I.E., Prof. — Inst. of Animal Morphol. of the Acad. of Sci. of the U.S.S.R., Bolshaja Kalushskaja 33, MOSCOW V-71, U.S.S.R.
- Artificial parthenogenesis and experimental polyploidy. *Bombyx mori* L. (*Lepidoptera*)
 - Androgenesis, especially interspecific. *Bombyx mori* L., *B. mandarina* Moore (*Lepidoptera*)
 - Influence of high temperature on developmental processes; heat denaturation of proteins. *Bombyx mori* L. (*Lepidoptera*) and many other organisms
 - Differential sensitivity of cell nucleus and cytoplasm to ionizing radiation. *Bombyx mori* L. (*Lepidoptera*)
- ATTARDO, Miss C. Dr — Ist. di Zool., Via Archirafi 18, PALERMO, Italia
- AUBRY, Miss R. Lic. ès Sci. — Lab. de Biol. gén., Inst. de Zool. et de Biol. gén., Fac. des Sci., 12 Rue de l'Université, STRASBOURG, France
- Étude de la lignée germinale. (*Amphibia*)
 - Étude de l'hermaphroditisme. (*Gastropoda*)
- AUERBACH, R. Ph.D. — Dept of Zool., Univ. of Wisconsin, MADISON, Wis., U.S.A.
- Embryonic tissue interactions. *Mus musculus* (*Rodentia*)
- AUSTIN, C. R. B.V.Sc., D.Sc., M.I.I.E. — Nat. Inst. for Med. Research, Mill Hill, LONDON N.W. 7, England
- Investigations on gametes, fertilization and early development. (*Mammalia*)
- AVEL, M. Dr, F.I.I.E., Prof. — Fac. des Sci. de Bordeaux, 40 Rue Lamar-tine, TALENCE (Gironde), France
- AVIS, F. A.B. — Roscoe B. Jackson Memorial Lab., Box 558, BAR HARBOR, Me, U.S.A.
- AZUBEL, R. B.Sc. — Cadeira de Histol. e Embriol., Fac. de Medicina, Univ. do Recife, Caixa Postal N. 616, RECIFE, Brasil
- Analysis of the development of the neural crest and its derivatives in the neck region, by means of the carbon-marking technique. *Gallus domesticus* (*Aves*)
- BACKHOUSE, K. M. M.B., B.S. — Dept of Anat., Charing Cross Hosp. Med. School, 62 Chandos Place, LONDON W.C. 2, England
- Gubernaculum testis and testicular descent. (*Mammalia*)
 - Early embryology and implantation. *Halichoerus grypus* (*Pinnipedia*)
 - Implantation of the blastocyst. (*Mammalia*)
- BÄCKSTRÖM, S. A. A. Fil.lic. — Wenner-Grens Inst. for exper. Biol., Norrtullsgatan 16, STOCKHOLM Va., Sweden
- Reducing and oxidizing substances in development. (*Echinoidea*), *Xenopus* spec. (*Anura*)
- BAFFONI, G. M. Dr — Ist. di Anat. comp. "G. B. Grassi", Fac. di Sci., Univ. di Roma, Via Borelli 50, ROMA, Italia
- Growth and differentiation of the nervous cell.
- BAGIŃSKI, S. M.D. — Inst. of Histol. and Embryol., Acad. of Med., Narutowicza 60, ŁÓDŹ, Poland
- Investigations of experimentally provoked monstruosities in embryos. *Gallus* spec. (*Aves*)
 - Influence of azo-dyes on the development of embryos. *Gallus* spec. (*Aves*)

- BAILEY, J. C. A.B., M.A., Ph.D. — Lab. of Perinatal Physiol., NINDB, School of Med., SAN JUAN, P.R., U.S.A.
- a. Effects of neonatal asphyxia with emphasis on mental retardation; experimental studies. (*Rodentia, Primates*)
 - b. Organization of a project of collaborative investigations on factors in the perinatal period of the *Rhesus monkey* leading to neurological and psychological deficits in the offspring. Protocol blanks will be sent on request.
- BAIOCCHI, O. — Lab. d'Hormonol. et de Cytol. Expér., Ecole pratique des Hautes Etudes, Hopital Broca, 111 Rue L. M. Nordmann, PARIS XIII, France
- a. Décoloration du dichlorophenol indophenol (DPIP) par l'ovocyte. Etude par micro-injection quantitative. *Mus musculus (Rodentia)* (en collaboration avec R. MORICARD et Miss M. M. C. S. GOTHIE)
- BALASUBRAMANIAM, K. B.Sc.(Hons) — Dept of Zool., Presidency Coll., College St, CALCUTTA 12, India
- a. Cellular factors in morphogenesis. *Gallus gallus (Aves)* (in collaboration with S. MOOKERJEE)
- BALINSKY, B. I. Dr Biol.Sci., F.I.I.E., Prof. — Dept of Zool., Univ. of the Witwatersrand, Milner Park, JOHANNESBURG, South Africa
- a. Heteroplastic transplantation of ectoderm between different species. (*Anura*)
- BALTUS, Miss E. Dr en Sci. — Lab. de Morphol. anim., Univ. libre de Bruxelles, 1850 Chaussée de Wavre, BRUXELLES-Auderghem, Belgique
- a. Study on isolated nucleoli. *Asterias Rubens (Asteroidea, Echinodermata)*
- BALTZER, F. Dr, Dr h.c. Strassb., Dr h.c. Freib. (Baden), F.I.I.E., Prof. (Emer.) — Zool. Inst. der Univ. Bern, Sahlistr. 8, BERN, Schweiz
- a. Letalität und Vererbungsrichtung bei Bastarden. (*Echinoidea*) (mit verschiedenen Mitarbeitern)
 - b. Xenoplastische Chimären. (*Amphibia*) (in Zusammenarbeit mit P.S. CHEN, Zürich)
- BARBIERI, F. D. Dr — Inst. de Biol. Gener. y Embriol. Exper., Casilla de Correos 193, TUCUMAN, Argentina
- a. Cytochemical effects of ultraviolet radiation on the developing embryo. *Gallus spec. (Aves)*
- BARDAWIL, W. — Dept of Pathol., Harvard Univ., Med. School, 25 Shattuck St, BOSTON 15, Mass., U.S.A.
- a. Histochemical studies on abnormal trophoblast with special reference to hydatidiform mole and chorionepithelioma. *Homo sapiens (Primates)* (in collaboration with A. T. HERTIG, D. G. MCKAY, K. BENIRSCHKE and Miss E. C. ADAMS)
- BARIGOZZI, C. Dr Sci., Prof. — Ist. di Genet., Univ. di Milano, Via Celoria 10, MILANO, Italia
- a. Development of melanomes with different genotypes. *Drosophila spec. (Diptera)*
- BARRY, T. H. D.Sc. — Dept of Zool., Fac. of Sci., Univ. of Pretoria, PRETORIA, South Africa
- BARTELMEZ, G. W. Ph.D. — Dept of Embryol., Carnegie Inst. of Washington, Wolfe and Madison Sts, BALTIMORE 5, Md, U.S.A.
- a. Blood supply of uterus. *Macaca mulatta (Primates)*

Bartelmez-Ben

- b. Early development of optic vesicle. (*Rodentia, Primates*)
 - c. Earliest development of oral hypophysis. (*Primates*)
 - d. Effects of rubella on foetus. *Homo sapiens (Primates)*
- BARTH, L. G. Ph.D., F.I.I.E., Prof. — Dept of Zool., Fac. of pure Sci., Columbia Univ., Broadway and 116th St, NEW YORK 27, N.Y., U.S.A.
- BARTH, Mrs L. JAEGER A.B., M.A., Ph.D. — Dept of Zool., Fac. of pure Sci., Columbia Univ., Broadway and 116th St, NEW YORK 27, N.Y., U.S.A.
- BAST, T. H. B.A., Ph.D., Prof. — Dept of Anat., Bardeen Med. Labs, Univ. of Wisconsin, MADISON 6, Wis., U.S.A.
- a. Embryology and anatomy of the middle and internal ear, and the mandible. *Homo sapiens (Primates)*
- BATTAGLIA, B. Sc.D. — Ist. di Zool. e Anat. comp., Fac. di Sci., Via Loredan 10, PADOVA, Italia
- BATTLE, Miss H. I. Ph.D., Prof. — Dept of Zool., Univ. of Western Ontario, LONDON, Ont., Canada
- a. A survey of the larval and young fish of central lake Erie. (*Teleostei*)
 - b. Effects of urethane on mitochondria in blastomeres. *Brachydanio rerio (Teleostei)*
 - c. Effects of 3 cm. microwaves on developing fish. *Salmo trutta fario (Teleostei)*
 - d. Effects of purines and purine antagonists on early developmental processes. *Salmo trutta fario, Brachydanio rerio (Teleostei)*
 - e. Morphogenesis of the digestive tract. *Crassostrea virginica (Gmelin) (Mollusca)*
- BAUD, C. A. Dr Méd. — Inst. d'Anat., Fac. de Méd., Univ. de Genève, 20 Rue Ecole de Méd., GENÈVE, Suisse
- a. Etude du début de la formation des myofibrilles dans l'ébauche cardiaque. *Gallus spec. (Aves)*
- BAUMANN, J. A. Dr, Prof. — Inst. d'Anat., Fac. de Méd., Univ. de Genève, 20 Rue Ecole de Méd., GENÈVE, Suisse
- a. Etude descriptive du développement de l'innervation du coeur. *Gallus spec. (Aves)* (en collaboration avec J. GALLERA)
- BAUTZMANN, H. Dr Med., Prof. — Anat. Inst. der Univ. Hamburg, Schottmüllerstr. 1, HAMBURG 20, Deutschland
- a. Entwicklungsphysiologie der Primitiventwicklung. (*Vertebrata, bes. Amphibia*)
 - b. Vergleichende Histofunktion, Histogenese und Histophysiologie der Amnioneinrichtungen. (*Amniota*)
 - c. Fruchthüllenmotorik und Motorik des Embryo. (*Evertebrata, Vertebrata*)
- BAXTER, E. W. B.Sc., Ph.D. — Biol. Dept, Guy's Hosp. Med. School, LONDON S.E. 1, England
- a. Biology, including development and metamorphosis. *Petromyzon spec. (Cyclostomata)*
 - b. Chromosome numbers. *Lampetra planeri, L. fluviatilis (Cyclostomata)*
 - c. Food changes during larval period of growth. *Ammocoetes spec. (Cyclostomata)*
- BEARD, R. G. A.B., M.A. — Dept of Embryol., Carnegie Inst. of Washington, Wolfe and Madison Sts, BALTIMORE 5, Md, U.S.A.

- a. An immunological analysis of the temporal and spatial appearance of the hemoglobin molecule in the developing embryo. *Gallus domesticus* (*Aves*)
- BEATTY, R. A. B.A., M.A., Ph.D., M.I.I.E. — Inst. of Animal Genet., Univ. Dept of Genet., King's Buildings, West Mains Rd, EDINBURGH 9, Scotland
- a. Heteroploidy and parthenogenesis; egg transfer; operations on embryos. *Mus musculus* (*Rodentia*), *Oryctolagus cuniculus* (*Lagomorpha*)
- b. Breeding of genetically tagged strains for use in experimental embryology. *Oryctolagus cuniculus* (*Lagomorpha*)
- c. Heterospermic insemination and growth of embryo. *Oryctolagus cuniculus* (*Lagomorpha*)
- d. Film of normal development *Oryctolagus cuniculus* (*Lagomorpha*) (in collaboration with E. C. A. LUCEY)
- e. Developmental biology and genetics of gametes. *Mus musculus* (*Rodentia*), *Oryctolagus cuniculus* (*Lagomorpha*)
- BEAU, A. A. Dr, Prof. — Lab. d'Anat., Inst. Anat., Fac. de Méd., 31 Rue Lionnois, NANCY (Meurthe & Moselle), France
- BECKER, U. Dr rer. nat. — Heiligenberg-Inst., (17b) HEILIGENBERG, Kreis Ueberlingen/Bodensee, Deutschland
- a. Experimente zur Analyse der Induktionsstoffe. (*Amphibia*)
- b. Linsenentwicklung. (*Amphibia*)
- BEDNJAKOVA, Mrs T. A. Cand. Biol. Sci. — Inst. of Animal Morphol. of the Acad. of Sci. of the U.S.S.R., Bolshaja Kalushkaja 33, MOSCOW V-71, U.S.S.R.
- a. Influence of high temperatures on developmental processes. *Bombyx mori* L. (*Lepidoptera*)
- b. Analysis of sterilizing effect of sublethal high temperature on eggs infected with *Nosema bombycis*. *Bombyx mori* L. (*Lepidoptera*) (in collaboration with Miss V. N. VEREJSKAJA)
- BEER, Sir G. R. de F.I.I.E., Prof. — British Museum (Natural History), Cromwell Road, LONDON, S.W. 7, England (U.K.)
- BELAISCH, J. — Lab. d'Hormonol. et Cytol. Expér., Ecole pratique des Hautes Etudes, Hopital Broca, 111 Rue L. M. Nordmann, PARIS XIII, France
- a. Étude des sécrétions cervicales, utérines et tubaires, en rapport avec les phénomènes de l'ascension spermatique, de la fécondation, de la segmentation, et de la nidation. *Oryctolagus cuniculus* (*Lagomorpha*) (en collaboration avec R. MORICARD et Miss M. M. C. S. GOTHIE)
- BELLAIRS—MORGAN, Mrs M. R. B.Sc., Ph.D. — Dept of Zool. and Comp. Anat., St Bartholomew's Hosp. Med. Coll., Charterhouse Square, LONDON E.C. 1, England
- a. An electron microscopical study of neural tube differentiation. *Gallus domesticus* (*Aves*)
- BELVOMINI, H. — Instituto Butantan, SÃO PAULO, Brasil
- a. Intersexuality. *Bothrops insularis* Amand (*Ophidia*) (in collaboration with A. HOGE and G. SCHREIBER, Belo Horizonte)
- BENAZZI, M. M.I.I.E., Prof. ord. — Ist. di Zool. e Anat. comp. dell'Univ., Via A. Volta 4, PISA, Italia
- a. Fertilization, pseudogamy, polyploidy and heredity. (*Tricladidea*, *Turbellaria*) (*Urodela*)
- b. Hybrids. *Triturus vulgaris* x *Tr. cristatus*, *Tr. italicus* and *Tr. helveticus*

Ben-Bis

- BENAZZI—LENTATI, Mrs G. — Ist. di Zool. e Anat. comp. dell'Univ.,
Via A. Volta 4, PISA, Italia *Turbellaria*
- a. Ovo- and spermatogenesis; fertilization and cytology. (*Tricladidea*)
- BENGMARK, S. Med.lic. — Dept of Anat., University, LUND, Sweden
- a. Derivation of prostatic gland. *Homo sapiens*, *Rattus* spec. (*Mammalia*)
- b. Hormonal influence on development of genital organs. *Rattus* spec. (*Rodentia*) (in collaboration with J. G. FORSBERG)
- BENIRSCHKE, K. M.D. — Dept of Pathol., Harvard Univ., Med. School,
25 Shattuck St. BOSTON 15, Mass., U.S.A.
- a. The identification of the hormones produced (if any) by the fetal cortical zone of the adrenal gland. *Homo sapiens* (*Primates*)
- b. Histochemical studies on abnormal trophoblast with special reference to hydatidiform mole and chorionepithelioma. *Homo sapiens* (*Primates*) (in collaboration with D. G. McKAY, A. T. HERTIG, W. BARDAWIL and Miss E. C. ADAMS)
- BENOIT, J. Dr en Méd., Dr ès Sci., Prof. — Lab. d'Histophysiol., Coll. de France, Place Marcelin Berthelot, PARIS Ve, France
- a. Action du DNA sur le développement de l'organisme. (*Vertébrés supérieures*)
- BENOIT, J. A. A. — Lab. d'Embryol. expér. du C.N.R.S., Coll. de France, 49bis Avenue de la Belle-Gabrielle, NOGENT sur Marne (Seine), France
- a. Etude expérimentale de la morphogénèse de la capsule otique. *Salmo* spec. (*Teleostei*), *Gallus* spec. (*Aves*)
- BENZ, G. A. Ph.D. — Zool. Inst. der Univ., Sahlistr. 8, BERN, Schweiz
- a. Entwicklungsphysiologie und Biochemie von Letalfaktoren. *Drosophila melanogaster* (*Diptera*)
- b. Biochemie der Regeneration. *Xenopus laevis* (*Anura*)
- BERG, G. G. Ph.D. — Dept of Pharmacol., School of Med., Univ. of Rochester, P.O. Box 287, Sta. 3, ROCHESTER 20, N.Y., U.S.A.
- a. Histochemical studies of development: substrate specificity and enzyme inactivation of inorganic meta- and polyphosphatases. *Rana* spec., *Mus* spec. (*Vertebrata*)
- b. Biochemistry of trimetaphosphate and trimetaphosphatase (general). *Mus rattus* (*Rodentia*)
- BERG, W. E. A.B., M.S., Ph.D., Prof. — Dept of Zool., Univ. of Calif., BERKELEY 4, Cal., U.S.A.
- BERGEIJK, W. A. van M.S. — Bell Telephone Labs, Inc., MURRAY HILL, N.J., U.S.A.
- BERGQUIST, H. Ph.D., M.I.I.E. — Zool. Inst., Univ. of Gothenburg, Postgatan 35, GÖTEBORG-C, Sweden
- a. Experimental investigations on the neural tube. (*Vertebrata*)
- b. Ultramicroscopical investigations on the integument. *Homarus astacus* (*Crustacea*)
- BERNSTEIN, G. S. B.A., M.A., Ph.D. — Dept of Embryol., Div. of Biol., Calif. Inst. of Technol., PASADENA 4, Cal., U.S.A.
- a. Life-span, motility and metabolism of spermatozoa. (*Echinodermata*, *Amphibia*, *Mammalia*)
- b. Physiology of fertilization. (*Echinodermata*, *Amphibia*)
- BERRILL, N. J. Ph.D., D.Sc., Prof. — Dept of Zool., McGill Univ., MONTREAL, Quebec, Canada

- BERTMAR, G. Fillic. — Zootom. Inst., Univ. of Stockholm, 70A Råd-
mansgatan, STOCKHOLM, Sweden
- a. Development and morphology of the skeleton of the head. (*Characidae*,
Teleostei)
- BIEBER, S. B.A., M.S., Ph.D. — The Wellcome Research Labs, TUCKA-
HOE 7, Westchester County, N.Y., U.S.A.
- a. Nucleic acid metabolism during gametogenesis, embryogenesis and rege-
neration; studies carried out with aid of analogues of purines and pyri-
midines, and with radioisotope-labeled nucleic acid derivatives. *Rana*
pipiens (*Anura*)
- BIELAŃSKA—OSUCHOWSKA, Mrs Z. Mag. of Sci. — Inst. of Histol.
and Embryol., Veter. Fac., ul. Grochowska 272, WARSZAWA, Poland
- a. Histochemical studies on oogenesis. *Polydrosus* spec., *Phyllobius* spec.
(*Curculionidae*, *Coleoptera*)
 - b. Comparative studies on vitellogenesis. *Phyllobius* spec., *Chlorophanus*
spec., *Rhynchites* spec. (*Curculionidae*, *Coleoptera*); *Melasoma populi*,
Agelastica alni (*Chrysomelidae*, *Coleoptera*); *Pyrrhocoris apterus*
(*Heteroptera*)
 - c. Studies on hermaphroditism. *Capra domestica* (*Artiodactyla*)
- BIER, K. Dr rer. nat. — Inst. für Angewandte Zool. der Univ. Naturw.
Fak., Röntgenring 10, WÜRZBURG, Deutschland
- BIJTEL, Miss J. H. Dr Sci., M.D., M.I.I.E. — Anat.-Embryol. Lab. der
Rijks Univ., Oostersingel 69, GRONINGEN, Holland
- a. Investigations concerning the process of outgrowth of the tail with
special reference to the rôle of the chorda dorsalis and the tail mesoderm.
Ambystoma mexicanum, *Triton taeniatus*, *Xenopus laevis* (*Amphibia*)
 - b. Experiments concerning the factors which determine the normal course
of the outgrowing pronephric duct. *Ambystoma mexicanum*, *Triton*
taeniatus, *Xenopus laevis* (*Amphibia*)
 - c. Development and phylogenetic origin of the columella auris. *Ambystoma*
mexicanum, *Triton taeniatus*, *Xenopus laevis* (*Amphibia*)
 - d. Development of the naso-lacrimal duct. *Xenopus laevis* (*Anura*)
 - e. Development of the naso-lacrimal duct. *Mus musculus albinus* (*Rodentia*)
 - f. Development of the corpus callosum. *Felis domestica* (*Carnivora*)
- BILLET, F. B.Sc., Ph.D. — Inst. of Animal Genet., Univ. Dept of Genet.,
King's Buildings, West Mains Rd, EDINBURGH 9, Scotland
- a. Developmental effects of metabolic antagonists. (*Evertebrata*, *Verte-*
brata) (in collaboration with Miss M. M. PERRY and C. H. WAD-
DINGTON)
 - b. Localization and distribution of β -glucuronidase in embryos. (*Amphibia*),
Gallus domesticus (*Aves*)
 - c. Immunological study of nucleoproteins. *Gallus* spec. (*Aves*) (in collabo-
ration with Mrs R. M. CLAYTON—FREEDMAN and A. FROH-
LICH)
- BILLINGHAM, R. E. M.A., D.Phil. — Dept of Zool. and Comp. Anat.,
Univ. Coll. London, Gower St, LONDON W.C. 1, England
- BIRGE, W. J. B.A., M.S., Ph.D. — Dept of Zool., Oregon State Coll.,
CORVALLIS, Ore., U.S.A.
- BISHOP, D. W. Ph.D. — Dept of Embryol., Carnegie Inst. of Washing-
ton, Wolfe and Madison Sts, BALTIMORE 5, Md, U.S.A.
- a. Physiology and metabolism of spermatozoa. (*Mammalia*)

- b. Intra-tubal factors influencing sperm motility and transport. (*Mammalia*)
 - c. Contractile protein and contractile mechanisms of spermatozoa. (*Mammalia*)
- BISHOP, M. W. H. M.A., Ph.D. — Nat. Inst. for Med. Research, Mill Hill, LONDON N.W. 7, England (*Mammalia*)
- a. Investigations on gametes, fertilization and early development. (*Mammalia*)
- BLACKLER, A. W. B.Sc., Ph.D. — Dept of Zool., Queens Univ., BELFAST, N. Ireland
- a. Origin of germ cells. *Rana temporaria*, *Xenopus laevis* (*Anura*)
 - b. Endodermal regulation. (*Amphibia*)
- BLANDAU, R. J. — Dept of Anat., School of Med., Univ. of Washington, SEATTLE 5, Wash., U.S.A.
- BLECHSCHMIDT, E. Dr Med., o.ö.Prof. — Anat. Inst. der Univ., Burgstrasse 51, GÖTTINGEN, Deutschland
- a. Entwicklungsbewegungen der Somiten. *Homo sapiens* (*Primates*)
 - b. Entwicklungsbewegungen der Nase. *Homo sapiens* (*Primates*)
 - c. Differenzierungsbewegungen der Lymphknoten. *Homo sapiens* (*Primates*) (gemeinsam mit L. von FERBER-SCHMIDT)
- BLOUNT, R. F. B.A., M.S., Ph.D., Prof. — Dept of Anat., Med. Branch, Univ. of Texas, GALVESTON, Tex., U.S.A.
- BLUNTSCHLI, H. Dr, F.I.I.E., Prof. (Emer.) — Anat. Inst., Bühlst. 26, BERN, Schweiz
(no embryological work in progress)
- BODDINGIUS, Miss J. B.Sc. — Hubrecht Lab., Intern. Embryol. Inst., Janskerkhof 2, UTRECHT, Holland
- a. Further analysis of contributions of transverse neural fold to the development of nervous system, neural crest and epidermis. *Ambystoma mexicanum*, *Triturus* spp. (*Urodela*)
- BODEMER, C. W. B.A., M.A., Ph.D. — Dept of Anat., School of Med., Univ. of Washington, SEATTLE 5, Wash., U.S.A.
- a. Effects of periphery upon development of central nervous system and establishment of nerve morphology and pattern. *Cricetus auratus* (*Rodentia*)
 - b. Reciprocal effects of nerve and periphery in limb regeneration. *Triturus viridescens* (*Urodela*)
- BODENSTEIN, D. Ph.D., M.I.I.E. — Chemical Corp. Medical Directorate, Army Chemical Center, MARYLAND, U.S.A.
- a. Nerve regeneration. *Periplaneta americana* (*Orthoptera*)
 - b. The role of the corpus allatum hormone in the maturation of eggs. *Culex* spec. (*Diptera*)
 - c. Intergeneric grafts of organ discs. (*Diptera*)
 - d. The role of the prothoracic gland in postembryonic development. *Periplaneta americana* (*Orthoptera*)
 - e. Analysis of tryptophan-derived eye pigments in different species. *Musca* spp. (*Diptera*)
- BODIN, N.-O. Fil.kand. — Inst. for Zoophysiol., Uppsala Univ., UPPSALA, Sweden
- a. The mechanism of agglutination of spermatozoa. (*Mammalia*) (in collaboration with P. E. LINDAHL and S. ROSS)
- BOELL, E. J. Ph.D., M.A., D.Sc., M.I.I.E. — Osborn Zool. Lab., Yale Univ., NEW HAVEN 11, Conn., U.S.A.

- a. Changes in mitochondria during development. (*Amphibia*)
 - b. Enzyme development in the central nervous system. (*Amphibia, Aves*)
 - c. Functional differentiation of respiratory structures. (*Amphibia*)
- BON, W. F. M.Sc. — Anat.-Embryol. Inst., Municipal Univ. of Amsterdam, Mauritskade 61, AMSTERDAM O, Holland
- BONDI, C. Dott., Prof. — Ist. di Biol. gen., Fac. di Med., S. Pietro, PERUGIA, Italia
- a. Rigenerazione. *Planaria lugubris* (*Turbellaria*)
 - b. Ricerche sulla tossicità. *Bufo* spec., *Rana* spec., *Triton* spec. (*Amphibia*)
 - c. Trapianti xenoplastici e differenziazione. *Triton* spec., *Rana* spec. (*Amphibia*)
 - d. Tossicità ed anticorpi. *Dugesia lugubris* (*Turbellaria*), *Bufo* spec. (*Anura*)
- BONICHON, Miss A. — Lab. de Physiol. Génér., 30, Rue Sainte-Cathérine, NANCY, France
- a. Recherches expérimentales sur le développement cytochimique des lobes optiques. *Gallus domesticus* (*Aves*) (en collaboration avec J. F. GAYET)
- BONIN, W. B.A., M.D., Prof. — Dépt d'Histol. et d'Embryol., Fac. de Méd. Univ. de Montréal, 2900 Boulevard du Mont-Royal, MONTREAL, Canada
(no embryological work in progress)
- BONNER, J. T. Ph.D. — Dept of Biol., Princeton Univ., PRINCETON, N.J., U.S.A.
- a. Problems of morphogenetic movements and differentiation. *Dictyostelium discoideum* (*Acrasiales*)
 - b. Morphogenesis. (*Basidiomycetes*)
- BONS, J. Lic. ès Sci. — Lab. de Biol. Anim., Centre d'Etudes Sup. Sci., Avenue Biarnay, RABAT, Maroc
- a. Développement expérimental du rein. (*Reptilia*)
- BOOKHOUT, C. G. A.B., M.A., Ph.D., Prof. — Dept of Zool., Duke Univ., DURHAM, N.C., U.S.A.
- a. The development from the egg to the sixty-day stage. Egg deposition, culture methods, day to day observations and records of living larvae and juveniles, study of fixed and sectioned material. *Marphysa regalis* (*Polychaeta*)
 - b. Larval development and the effect of variations in temperature, salinity, and diet on molting frequency and time of development. *Balanus* spp. (*Cirripedia, Crustacea*)
- BORDEN, J. van der — Anat.-Embryol. Inst., Municipal Univ. of Amsterdam, Mauritskade 61, AMSTERDAM O, Holland
- a. Experiments designed to test relations of some inhibitors of embryonic development to the effect of X-rays. (*Urodela, Rodentia*) (in collaboration with H. A. L. TRAMPUSCH)
- BORGHESE, E. M.D., Ph.D., M.I.I.E. — Ist. di Anat. umana normale, Via Forlanini 8, PAVIA, Italia
- a. Development of hemopoietic organs and gonads in the lethal homozygous form of the mutation W. *Mus musculus* (*Rodentia*)
- BOSCHWITZ, Miss B. D. M.Sc. — Dept of Zool., Hebrew Univ., JERUSALEM, Israel
- a. The ultimobranchial body. (*Anura*)

- BOSE, Miss A. B.Sc. (Hons) — Dept of Zoology, Presidency Coll., College St, CALCUTTA 12, India
- a. Cellular factors in morphogenesis. (*Amphibia*) (in collaboration with S. MOOKERJEE)
- BOSE, A. M.Sc. — Dept of Zool., Presidency Coll., College St, CALCUTTA 12, India
- a. Biochemical studies on the yolk granules. *Gallus gallus* (*Aves*)
 - b. Localised thermal exposures of the blastoderm. *Gallus gallus* (*Aves*)
- BOTERENBROOD, Miss E. C. M.Sc. — Hubrecht Lab., Intern. Embryol. Inst., Janskerkhof 2, UTRECHT, Holland
- a. Organization of prosencephalic structures after dis- and re-aggregation of the prosencephalic part of the neural plate. *Triturus alpestris* (*Urodela*)
- BOUILLON, J. Lic.Sci.Zool. — Lab. de Zool., Fac. des Sci., Inst. Zool. Torley-Rousseau, Univ. libre de Bruxelles, 50 Avenue F. D. Roosevelt, BRUXELLES, Belgique
- BOUIN, P. Dr. Prof. (Emer.) — VENDRESSE, Ardennes, France
- BOUNOURE, L. Prof. — Lab. de Biol. gén., Inst. de Zool. et de Biol. gén., Fac. des Sci., 12 Rue de l'Université, STRASBOURG, France
- a. Initial development: primordial germ-cells, development of the gonads. (*Amphibia*)
- BÖVING, B. G. A.B., M.D., M.I.I.E. — Dept of Embryol., Carnegie Inst. of Washington, Wolfe and Madison Sts, BALTIMORE 5, Md, U.S.A.
- a. Blastocyst spacing, orientation and implantation mechanisms. *Oryctolagus cuniculus* (*Lagomorpha*)
 - b. Relation of trophoblast invasion to bloodvessels underlying uterine epithelium, and the anatomical and chemical basis for it. *Oryctolagus cuniculus* (*Lagomorpha*)
 - c. Identification and function of non-cellular blastocyst coverings. *Oryctolagus cuniculus* (*Lagomorpha*)
- BOYD, J. D. M.A., M.Sc., M.D., M.I.I.E., Prof. — Anat. School, Univ. of Cambridge, CAMBRIDGE, England
- a. The development and structure of the placenta. *Homo sapiens* (*Primates*) (in collaboration with W. J. HAMILTON)
- BOYDEN, E. A. Ph.D., Prof. — (Emer. Prof.) Inst. of Anat., School of Med., Univ. of Minnesota, MINNEAPOLIS 14, Minn., U.S.A.
— (Visit. Prof.) Med. School, Univ. of Washington, SEATTLE 5, Wash., U.S.A.
- BOYER, C. C. B.S., M.A., Ph.D., Prof. — Dept of Anat., School of Med., Univ. of West Virginia, MORGANTOWN, W.Va., U.S.A.
- a. Structure of the renal glomerulus. (*Mammalia*)
 - b. Morphological changes in pathological renal glomeruli, by plastic reconstruction.
- BRACHET, J. L. A. M.D., D.Sc., F.I.I.E., Prof. — Lab. de Morphol. anim., Univ. libre de Bruxelles, 1850 Chaussée de Wavre, BRUXELLES-Auderghem, Belgique.
- a. Studies on the metabolism of lethal hybrids. (*Amphibia*)
 - b. Action of ribonuclease on development. *Rana spec.*, *Ambystoma spec.*
 - c. Role of -SH groups in morphogenesis. (*Amphibia*)
 - d. Biochemical changes in explants undergoing sub-lethal cytolysis. (*Amphibia*)

- BRADEN, A. W. H. M.Sc., Ph.D. — Sheep Biol. Lab., C.S.I.R.O., PROSPECT, N.S.W., Australia
- Fertilization; interaction between sperms; genetic differences in the morphology and physiology of the gametes. *Mus musculus* (Rodentia)
- BRAHMA, S. K. M.Sc., D.Phil., Ph. D. — Inst. of Animal Genet., Univ. Dept of Genet., King's Buildings, West Mains Rd, EDINBURGH 9, Scotland
- Study on the process of evocation with special reference to diffusion. *Triturus alpestris*, *Xenopus laevis*, *Ambystoma* spec. (Amphibia)
 - On lens induction. *Triturus alpestris*, *Xenopus laevis*, *Ambystoma* spec. (Amphibia)
 - Transfer of substances during induction. (Amphibia) (in collaboration with J. L. SIRLIN)
- BRAMBELL, F. W. R. B.A., Ph.D., D.Sc., F.R.S., F.I.I.E., Prof. — Agr. Res. Council Unit of Embryol., Dept of Zool., Univ. Coll. of North Wales, BANGOR, Caernarvonshire, N.Wales
- Immunological relations of mother and young. (Mammalia)
- BRESCH, D. Lic. ès Sci. — Lab. de Zool., Inst. de Zool. et de Biol. gén., Fac. des Sci., 12 Rue de l'Université, STRASBOURG, France
- BRETSCHNEIDER, L. H. Prof. — Centrum voor Electronenmicroscopie, Janskerkhof 3, UTRECHT, Holland
- Pathogenesis of egg cells. *Limnaea stagnalis* (Gastropoda)
- BREWIN, B. I. M.Sc. — Dept of Zool., Univ. of Otago, DUNEDIN, New Zealand
- Embryology and life history of a truly viviparous compound form. *Hypsistozoa fasmariana* (Ascidia)
- BRIEN, P. L. Dr Sci.Zool., F.I.I.E., Prof. — Lab. de Zool., Fac. des Sci., Inst. de Zool. Torley-Rousseau, Univ. libre de Bruxelles, 50 Av. F. D. Roosevelt, BRUXELLES, Belgique
- BRIGGS, R. W. Ph.D., M.I.I.E. — Dept of Zool., Indiana Univ., BLOOMINGTON, Ind., U.S.A.
- BRIONES, H. M.D. — Inst. de Biol. „Juán Noé”, Univ. de Chile, Casilla 2988, SANTIAGO, Chile
- BRODOWA, Mrs Ch. GRABIE M.Ph. — Zakład Zool. Ogólnej, Inst. Zool., Uniw. we Wrocławiu, ul. Sienkiewicza 21, WROCŁAW, Poland
- Morphogenetical functions of the thyroid gland, especially hormonal action on blood. *Rana* spec. (Anura)
- BROEK, A. J. P. v. d. F.I.I.E., Prof. (Emer.) — Biltstraat 109, UTRECHT, Holland
- BRØNDSTED, H. V. Dr Phil., F.I.I.E., Prof. — Inst. for Alm. Zool., Universitetsparken 3, COPENHAGEN Ø, Denmark
- Regeneration. (Planariidae, Plathelminthes)
 - Developmental physiology. *Spongilla* spec. (Porifera)
 - Development of the brain. (Mammalia)
- BROOKBANK, J. W. B.A., M.S., Ph.D. — Dept of Biology, Univ. of Florida, GAINESVILLE, Florida, U.S.A.
- Effects of antisera on egg metabolism. *Lytechinus variegatus* (Echinoidea)
 - Localization of antigens within the unfertilized egg. *Strongylocentrotus purpuratus* (Echinoidea)

Bro-Car

- BROUANT, J. F. Lic. ès Sci. — Lab. d'Histol., Dép. d'Embryol., Fac. de Méd., 31 Rue Lionnois, NANCY (Meurthe & Moselle), France
- Action de certaines substances chimiques sur la cyto-différenciation embryonnaire. (*Amphibia*)
- BROUWER, P. J. Med.Drs — Anat.-Embryol. Lab. of the Univ., Fac. of Med., Wassenaarseweg, Boerhaavekwartier, LEIDEN, Holland
- Development of thyroid gland and teeth (investigations with radioactive isotopes). (in collaboration with J. DANKMEIJER)
- BROWN, J. W. A.B., M.A., Ph.D. — Dept of Anat., School of Med., Univ. of Missouri, COLUMBIA, Mo, U.S.A.
- Development of the nucleus of the spinal tract of trigeminal nerve. *Homo sapiens (Primates)*
- BRUNOLD, Miss E. Dr phil. — Zool. Inst., Eidg. Technische Hochschule, Universitätsstr. 2, ZÜRICH, Schweiz
- Qualitative und quantitative Untersuchungen über die Aminosäuren bei bestrahlten und unbestrahlten Eiern und Embryonen. *Drosophila melanogaster (Diptera)*
- BRUNST, V. V. Dr Biol. — Roswell Park Memorial Inst., 666 Elm St, BUFFALO 3, N.Y., U.S.A.
- Experimental developmental morphology. *Siredon mexicanum (Urodela)*
 - Development and pathology. *Siredon mexicanum (Urodela)*
 - Regeneration. *Siredon mexicanum (Urodela)*
- BRYAN, J. H. D. B.Sc., M.A., Ph.D. — Dept of Genetics, Iowa State Coll., AMES, Iowa, U.S.A.
- Cytochemical studies of gamete formation. *Mus musculus (Rodentia)*
 - Cytochemical studies of X-ray effects on mitosis and meiosis. *Mus musculus (Rodentia)*
 - X-ray induced chromosome-translocation effects. *Mus musculus (Rodentia)*
 - Nucleic acid-protein ratios during growth and differentiation. *Mus musculus (Rodentia)*
- BUJARD, E. Prof. — Inst. d'Histol. et d'Embryol., École de Méd., GENÈVE, Suisse
- BUSO, W. B.Sc., Ph.D., Prof. — Dept de Histol. y Embriol., Fac. de Med., MONTEVIDEO, Uruguay, S. America
- BURDON-JONES, C. B.Sc., Ph.D. — Marine Biol. Station, Univ. Coll. of North Wales, MENAI BRIDGE, Anglesey, N. Wales
- Embryology. (*Hemichordata, Gastropoda*)
- BURGOS, M. — Dept of Anat., Harvard Univ., Med. School, 25 Shattuck St, BOSTON 15, Mass., U.S.A.
- BURNS, R. K. A.B., Ph.D., F.I.I.E. — Dept of Embryol., Carnegie Inst. of Washington, Wolfe and Madison Sts, BALTIMORE 5, Md, U.S.A.
- BUTLER, E. G. Ph.D., Sc.D., F.I.I.E., Prof. — Dept of Biol., Princeton Univ., PRINCETON, N.J., U.S.A.
- A study of the mechanics of the formation of the regeneration blastema. The influence of nerves on blastema formation. Regression in nerveless non-regenerating limbs. *Ambystoma punctatum, A. opacum (Urodela)*
 - Regression (reduction) and subsequent reconstitution. *Clavelina lepadiformis (Tunicata, Urochordata)*
 - Effects of ultraviolet radiation on limb development and limb regeneration. (*Urodela*)

- BUTLER, H. M.A., M.D., B.Chir. — Dept of Anat., Univ. of Khartoum, KHARTOUM, Sudan
- The reproductive cycle and early development. *Galago senegalensis senegalensis (Primates)*
 - The development of the intestine. *Hyrax spec. (Hyracoidea)*
- BUTROS, J. M. M.A., Ph.D. — Biol. Dept, American Univ., BEIRUT, Lebanon
- Cytoplasmic viscosity in the egg during suppressed respiration. (*Echinoidea*)
 - Measurement of electrical potential in regenerating planaria. *Dugesia tigrina (Tricladidea)*
- BÜYÜKÖZER, Miss I. M.D. — Histol. ve Embriol. Enstitüsü, Tıp Fakültesi, Cebeci, ANKARA, Turkey
(no embryological work in progress)
- BYCZKOWSKA—SMYK, Mrs W. Mgr. — Zakład Anat. Porównawczej U.J. im H. Hoyer, św. Anny 6, KRAKOW, Poland
- CAIRNS, J. M. A.B., M.S., Ph.D. — 205 Calvert Boulevard, Tonawanda, NEW YORK, N.Y., U.S.A.
- CALLAN, H. G. M.A., D.Sc., Prof. — Dept of Zool., The University, ST ANDREWS, Fife, Scotland
- Oocyte nuclei and lampbrush chromosomes.
- CAMBAR, R. Dr, M.I.I.E., Prof. — Lab. de Biol. génér., Fac. des Sci. de Bordeaux, 40 Rue Lamartine, TALENCE, Gironde, France
- Etude descriptive et expérimentale de la morphogenèse du mésonéphros. *Rana spec., Alytes spec., Discoglossus spec., Xenopus spec. (Anura)*
 - Etude du développement du système pronéphrétique, en particulier de l'uretère primaire. (*Anura*)
 - Involution ou transformations de l'appareil excréteur pendant la métamorphose. (*Anura*)
 - Modalités et facteurs de formation de l'ostium. (*Anura*)
 - Table chronologique du développement normal. *Alytes spec. (Anura)*
 - Recherches descriptives sur le développement. *Gambusia spec. (Teleostei)*
- CAMOSSO, Miss M. E. Sc.Dr — Inst. of human Anat., Fac. of Med., Policlinico, BARI, Italy
- Analysis of the morphogenesis of the wing. *Gallus domesticus (Aves)*
- CAMPENHOUT, E. van Dr, F.I.I.E., Prof. — Inst. d'Anat., Univ. de Louvain, 38 Rue des Récollets, LOUVAIN, Belgique
- Innervation of the lungs.
 - Innervation of the digestive tract.
 - Development of the embryo. *Crocodylus spec. (Reptilia)*
 - Development of the visceral nervous system. *Homo sapiens (Primates)*
 - Development of the acoustic nerve. (*Reptilia, Mammalia*)
- CARRANO, Miss F. Dr — Ist. di Zool., Via Archirafi 18, PALERMO, Italia
- CARTER, T. C. M.A., Ph.D., D.Sc. — Radiobiol. Res. Unit., Atomic Energy Res. Establ., HARWELL, Berkshire, England
- Developmental study of a radial hemimelia mutant. *Mus musculus (Rodentia)*
 - Developmental study of the myelencephalic blebs mutant. *Mus musculus (Rodentia)*

Cas-Chi

- CASPARI, E. W. Ph.D., Prof. — Dept of Biol., Wesleyan Univ., MIDDLETOWN, Conn., U.S.A.
- Mitochondria in development and heredity. *Mus musculus (Rodentia)*
 - Development of pigment granules in the testis. *Ephestia Kühniella (Lepidoptera)*
 - Development of a blind mutant. *Mus musculus (Rodentia)*
- CASTIGLI—PITOTTI, Mrs M. Dott. — Ist. di Biol. gen., Fac. di Med., S. Pietro, PERUGIA, Italia
- Natura della gastrulazione senza segmentazione. *Petromyzon fluviatilis (Cyclostomata)*
 - Azione e reazione nella metamorfosi. *Bufo vulgaris (Anura)*
 - Morfogenesi proteica.
- CASTIGLIONI, Miss M.C. Dr — Ist. di Genet., Univ. di Milano, Via Celoria 10, MILANO, Italia
- Experimental study of development of pseudotumors. *Drosophila spec. (Diptera)*
 - Transplantation of eye discs between stocks with developmental abnormalities of the eye. *Drosophila spec. (Diptera)*
 - Paper chromatography of mutants. *Drosophila spec. (Diptera)*
- CATE, G. ten M.D., M.I.I.E. — Anat.-Embryol. Inst., Municipal Univ. of Amsterdam, Mauritskade 61, AMSTERDAM O, Holland
- Study about the origin of the specific lens protein α -crystallin and of other organ-specific proteins in the development. (*Amphibia*), *Gallus spec. (Aves)*
- CAUNA, N. M.D., M.Sc. — Dept of Anat., Med. School, King's Coll., Univ. of Durham, NEWCASTLE upon Tyne, England
- Development of cutaneous receptor organs and nerves. *Homo sapiens (Primates)*
 - Early development of limbs. *Homo sapiens (Primates)* and other spp. (*Vertebrata*)
- CÉAS, Miss M. P. Ph.D. — Ist. di Anat. Comp., Via Archirafi 18, PALERMO, Italia
- Biochemical activities of the different presumptive territories of the young gastrula. *Discoglossus pictus (Anura)*
- CENTAMORI, M. Dott. — Ist. di Biol. gen., Fac. di Med., S. Pietro, PERUGIA, Italia
- CHALKLEY, D. T. B.A., M.A., Ph.D. — Univ. of Notre Dame, NOTRE DAME, Ind., U.S.A.
- CHAMBERS, W. W. — Dept of Anat., School of Med., Univ. of Pennsylvania, PHILADELPHIA 4, Pa, U.S.A.
- CHANDEBOIS, Miss R. Lic. ès Sci. — Lab. de Zool. génér. de la Fac. des Sci., Place Victor Hugo, MARSEILLE, France
- CHANG, C. Y. M.S., Ph.D. — Dept of Zool., State Univ. of Iowa, IOWA CITY, Iowa, U.S.A.
- Hypohalectomy in embryos. *Rana spec.*, *Xenopus spec.*, *Bufo spec. (Anura)*
 - The mechanism of ovulation. *Xenopus spec. (Anura)* (in collaboration with E. WITSCHI)
 - Sex inversion by steroid hormones. (*Anura*)
- CHANG, M. C. Ph.D. — Worcester Foundation for Exper. Biol., 222 Maple Ave, SHREWSBURY, Mass., U.S.A.

- a. Physiology of fertilization and cleavage. *Oryctolagus cuniculus* (*Lagomorpha*)
 - b. Fertilizability. *Oryctolagus cuniculus* (*Lagomorpha*)
 - c. Parthenogenetic development of blastocysts. *Oryctolagus cuniculus* (*Lagomorpha*)
 - d. Effects of low temperatures on heart beat of 10 day old embryos. *Oryctolagus cuniculus* (*Lagomorpha*)
 - e. Fertilization and parthenogenesis. *Mustela furo* L. (*Carnivora*)
 - f. Irradiation of spermatozoa and ova in vitro. *Oryctolagus cuniculus* (*Lagomorpha*)
- CHANG, T. K. Dr — Chinese Peking Union Med. College, PEKING, China
- CHANMUGAM, P. K. M.Sc., M.R.C.S., L.R.C.P., L.M.S. — Dept of Anat., Fac. of Med., Univ. of Ceylon, Kynsey Rd, COLOMBO 8, Ceylon, India
- CHAPMAN, A. O. Ph.D. — Dept of Anat., Coll. of Med., Univ. of Nebraska, OMAHA 5, Nebraska, U.S.A.
- CHASE, H. B. Ph. D., Prof. — Arnold Biol. Lab., Brown Univ., PROVIDENCE 12, R.I., U.S.A.
- a. A study of anophthalmia and microphthalmia. *Mus musculus* (*Rodentia*)
 - b. A study of skin and its derivatives with emphasis on hair development and pigment distribution. *Mus musculus* (*Rodentia*)
 - c. Radiation effects on hair follicle morphogenesis. *Mus musculus*, *Cavia cobaya* (*Rodentia*)
- CHEN, P. S. Dr Phil. — Zool.-vergl.Anat. Inst., Naturw. Fak., Univ. Zürich, Künstlergasse 16, ZÜRICH 6, Schweiz
- a. Xenoplastische Chimären. (*Amphibia*) (in Zusammenarbeit mit F. BALTZER, Bern)
- CHENEY, R. H. B.S., A.M., S.M., Sc.D., Prof. — Dept of Biol., Brooklyn Coll., Bedford Ave and Ave H, BROOKLYN 10, N.Y., U.S.A.
- a. Retardation effect of dimethylated xanthines on development. *Arbacia punctulata* (*Echinoidea*)
 - b. Theophylline, theobromine, and caffeine effects on fecundity and development. *Rattus norvegicus* (*Rodentia*)
 - c. Effect of di- and trimethylated xanthines on root tip growth. *Allium* spec. (*Liliaceae*)
 - d. Effect of methylated xanthines on the oxygen consumption of the fertilized egg and early embryology. *Arbacia punctulata* (*Echinoidea*)
 - e. Effect of x-ray irradiation on development of methylated xanthine-treated eggs. *Arbacia punctulata* (*Echinoidea*)
 - f. Effect of caffeine on development. *Rana pipiens* (*Anura*)
- CHIQUOINE, A. D. B.A., Ph.D. — Dept of Anat., Washington Univ., ST LOUIS, Mo., U.S.A.
- a. Electron microscopy and cytochemistry of differentiating cells.
- CHISHIMA, K. Prof. — Lab. for Zool., Dept of Agricult., Gifu Univ., Naka-cho, GIFU, Gifu-ken, Japan
- a. New cell (spermatogonia)-formation from living substances (fatty tissue). *Bombyx mori* L., *Pachytilus danicus* L. (*Insecta*)
 - b. New cell (hemocytoblast)-formation from yolk spheres in embryo and tadpole. *Rana nigromaculata* Hall (*Anura*)

- CHOUNICK, A. A.B., Ph.D. — Dept of Zool., Univ. of Conn., STORRS, Conn., U.S.A.
- Developmental effects of pseudoallelic loci. *Drosophila melanogaster* (Diptera)
 - Nutritional requirements associated with morphological mutants and lethals. *Drosophila melanogaster* (Diptera)
- CHOWDHURY, Miss M. B.Sc.(Hons) — Dept of Zoology, Presidency Coll., College St, CALCUTTA 12, India
- Physiology of cell-contact. (Porifera) (in collaboration with S. MOOKERJEE)
- CHUANG HSIAO HUI Dr rer. nat., Dr rer. nat. habil., F.I.I.E. — Lab. of Developm. Physiol., Inst. for Exper. Biol., Acad. Sinica, 865 Chang Ning Rd, SHANGHAI, China
- CHURCH, G. A.B. — Dept of Biol. Sci., Stanford Univ., STANFORD, Cal., U.S.A.
- CIGADA—LEONARDI, Mrs. M. Dott.Sci.Biol., M.I.I.E. — Ist. di Zool. e Anat. Comp., Univ. di Milano, Via Celoria 10, MILANO, Italia
- Protein changes in embryonic development. (Insecta, Echinodermata, Amphibia, Aves)
 - Electron microscopy of differentiation. (Aves)
- CITTERIO, P. Grad.stud. — Ist. di Zool. e Anat.comp., Univ di Milano, Via Celoria 10, MILANO, Italia
- Determination in early development. (Echinodermata, Amphibia)
- CLARA, M. Dr. Prof. — Inst. of Histol. and Embryol., Univ. of Istanbul, ISTANBUL-Beyazit, Turkey
(no embryological work in progress)
- CLARK, H. B.A., Ph.D., Prof. — Dept of Zool., Univ. of Connecticut, STORRS, Conn., U.S.A.
- Nitrogen metabolism of embryos. (Reptilia, Aves)
 - Factors affecting reaggregation of segregated cells in tissue culture.
 - Phase contrast cinematography of differentiating cells. *Gallus domesticus* (Aves)
 - Ontogenesis of enzymes. *Gallus domesticus* (Aves) (in collaboration with M. GOLDIE)
- CLARKE FRASER, F. M.D. — Dept of Genetics, McGill Univ., MONTREAL, Quebec, Canada
- CLAVERT, J. Dr en Méd., Dr ès Sci., M.I.I.E., Prof. — Inst. d'Embryol. Fac. de Méd., 1 Place de l'Hôpital, STRASBOURG, France
- Formation de l'oeuf (Rôle de l'hormone femelle en vitellogénèse), (Pisces), (Reptilia), *Columba spec.*, *Anas spec.*, *Gallus spec.* (Aves)
 - Recherches sur le déterminisme de la symétrie bilatérale. (Pisces, Reptilia, Aves)
- CLAYTON—FREEDMAN, Mrs R. M. M.A. — Inst. of Animal Genet., Univ. Dept of Genet., King's Buildings, West Mains Rd, EDINBURGH 9, Scotland
- Studies of differentiation by immunological and other techniques. *Triton alpestris* (Urodela)
 - Studies of a locus in a highly inbred line by immunological and allied techniques: the loci „pink eye“, „luxate“, and „agouti“ in CBA mice and „albino“ in an inbred strain of this laboratory. *Mus musculus* (Rodentia)

- c. Differentiation in tissue culture. *Gallus spec. (Aves)* (in collaboration with A. FROHLICH)
- d. Studies of differentiation by immunological and chromatographic techniques. *Mus musculus (Rodentia)*
- e. Immunological study of nucleoproteins. *Gallus spec. (Aves)* (in collaboration with F. BILLET and A. FROHLICH)

CLEAT, N. D. B.Sc. — Dept of Genet., The University, GLASGOW W. 2, Scotland (U.K.)

CLEGG, E. J. M.B., Ch.B. — Dept of Anat., Univ. of Liverpool, LIVERPOOL, England

- a. Age changes in the fructose content of the coagulating gland. *Rattus spec. (Mammalia)*
- b. Effects of low atmospheric pressure on the reproductive and endocrine systems of laboratory animals. (*Mammalia*)

CLEMENT, A. C. Ph.D., M.I.I.E., Prof. — Dept of Biol., Emory Univ., ATLANTA, Ga, U.S.A.

- a. Localization of morphogenic factors: experimental analysis. *Ilyanassa obsoleta (Gastropoda)*
- b. Distribution of mitochondria and lipid droplets during early development. *Ilyanassa obsoleta (Gastropoda)* (in collaboration with F. E. LEHMANN)
- c. Cytochemical and physiological studies of early development. *Ilyanassa obsoleta (Gastropoda)*

CLEMENTS, L. P. Dr — Dept of Anat., School of Med., The Creighton Univ., OMAHA, Nebraska, U.S.A.

COHEN, A. I. Ph.D. — Dept of Anat., Med. School, Washington Univ., ST LOUIS 10, Mo., U.S.A.

COHN, S. A. B.S., M.S., Ph.D. — Div. of Anat., Med. Units Div., Fac. of Biol. Sci., Univ. of Tennessee, MEMPHIS 3, Tenn., U.S.A.

- a. The development of glands of ectodermal origin. *Gallus domesticus (Aves)*, *Mus musculus (Rodentia)*
- b. Cytological, cytochemical and histochemical studies on the initiation of secretory activity in developing ectodermal glands. *Mus musculus (Rodentia)*
- c. Studies of tooth development. *Mus musculus (Rodentia)*

COLOMBO, G. Dr Biol.Sci. — Ist. di Zool. e Anat. comp., Fac. di Sci., Via Loredan 10, PADOVA, Italia

- a. Chromosomes in early development. (*Amphibia*)
- b. Effects of hormones on cleavage and early development. (*Amphibia*)
- c. Gametogenesis. (*Arthropoda*)

COLWIN, A. L. Ph.D., M.I.I.E., Prof. — Dept of Biol., Queens Coll., Flushing 67, L.I., NEW YORK, N.Y., U.S.A.

- a. Fertilization: sperm-egg association and sperm penetration; cortical changes; membrane changes, lytic aspects. Living material and electron microscope studies. (*Enteropneusta*, *Echinodermata*, *Annelida*) (in collaboration with Mrs L. H. COLWIN)

COLWIN, Mrs L. HUNTER Ph.D., Prof. — Dept of Biol., Queens Coll., Flushing 67, L.I., NEW YORK, N.Y., U.S.A. R

- a. Fertilization: sperm-egg association and sperm penetration; cortical changes; membrane changes; lytic aspects. Living material and electron microscope studies. (*Enteropneusta*, *Echinodermata*, *Annelida*) (in collaboration with A. L. COLWIN)

- CONAWAY, C. H. B.S., Ph.D., — Dept of Zool., Univ. of Missouri, COLUMBIA, Mo., U.S.A.
- CONDORELLI, M. Dott. in Med. — Semeiotica Medica, Università di Roma, Policlinico Umberto I, ROMA, Italia
- a. Circolazione fetale e neonatale. *Cavia spec.*, *Ovis spec.*, *Canis spec.*, *Homo sapiens (Mammalia)*
- CONINCK, L. A. P. De Dr Sc., Prof. — Lab. voor Zool., Afd. Morphol., Universiteitstraat 14, GENT, België
- a. Regeneration. (*Urodela*)
- CORLISS, C. E. B.S., M.S., Ph.D. — Div. of Anat., Med. Units Div., Fac. of Biol. Sci., Univ. of Tennessee, MEMPHIS 3, Tenn., U.S.A.
- a. Study of mitotic activity and its relation to morphogenesis in young embryos. *Mus norvegicus albinus (Rodentia)*
 - b. Colchicine toxicity to embryonic tissue. *Mus norvegicus albinus (Rodentia)*
 - c. Study of mitotic activity in the central nervous system and its relation to morphogenesis and virus susceptibility. *Gallus domesticus (Aves)*
- CORNER, G. W. A.B., M.D., D.Sc., F.I.I.E., Prof. — Rockefeller Inst. for Med. Res., 66th St and York Ave, NEW YORK 21, N.Y., U.S.A.
- a. Embryology of twins and other multiple births. *Homo sapiens (Primates)*
- CORNER, Jr, G. W. — Dept of Embryol., Carnegie Inst. of Washington, Wolfe and Madison Sts, BALTIMORE 5, Md, U.S.A.
- a. Determinations of blood, amniotic and intervillous space pressures throughout pregnancy. *Macaca mulatta (Primates)* (in collaboration with Miss E. M. RAMSEY and W. N. LONG)
- COSTELLO, D. P. Ph.D., F.I.I.E., Prof. — Dept of Zool., Univ. of North Carolina, CHAPEL HILL, N.C., U.S.A.
- a. Studies in experimental cytology. *Polychoerus spec. (Acoela, Turbellaria)*, *Nereis limbata*, *Chaetopterus spec. (Polychaeta)*
- COSTLOW, J. D. A.B., Ph.D. — Duke Univ. Marine Lab., BEAUFORT, N.C., U.S.A.
- a. Larval development under normal and experimental conditions. *Balanus* spp. (*Cirripedia, Crustacea*)
- COTRONEI, G. Dott., F.I.I.E., Prof. — Ist. di Anat. comp. dell'Univ., Fac. di Sci., Via Borelli 50, ROMA, Italia
- COULOMBRE, A. J. B.S., M.S., Ph.D. — Dept of Anat., Yale Univ. School of Med., 333 Cedar St, NEW HAVEN 11, Conn., U.S.A.
- a. Mechanical factors in intestinal morphogenesis during late development. *Gallus domesticus (Aves)* (in collaboration with J. L. COULOMBRE)
 - b. Developmental physiology of corneal transparency. *Gallus domesticus (Aves)* (in collaboration with J. L. COULOMBRE)
 - c. Mechanical factors in brain morphogenesis. *Gallus domesticus (Aves)* (in collaboration with J. L. COULOMBRE)
 - d. Factors underlying collagenous fiber patterns in the developing cornea. *Gallus domesticus (Aves)* (in collaboration with J. L. COULOMBRE)
 - e. Electron microscopic study of the developing intestinal mucosa. *Gallus domesticus (Aves)* (in collaboration with J. L. COULOMBRE)
 - f. Mechanical factors underlying skull morphogenesis. *Gallus domesticus (Aves)* (in collaboration with E. S. CRELIN)
 - g. Developmental histochemistry of the cornea. *Gallus domesticus (Aves)* (in collaboration with J. L. COULOMBRE)

- COULOMBRE, J. L. — Dept of Anat., Yale Univ. School of Med., 333 Cedar St, NEW HAVEN 11, Conn., U.S.A.
- a. Mechanical factors in intestinal morphogenesis during late development. *Gallus domesticus* (*Aves*) (in collaboration with A. J. COULOMBRE)
 - b. Developmental physiology of corneal transparency. *Gallus domesticus* (*Aves*) (in collaboration with A. J. COULOMBRE)
 - c. Mechanical factors in brain morphogenesis. *Gallus domesticus* (*Aves*) (in collaboration with A. J. COULOMBRE)
 - d. Factors underlying collagenous fiber patterns in the developing cornea. *Gallus domesticus* (*Aves*) (in collaboration with A. J. COULOMBRE)
 - e. Electron microscopic study of the developing intestinal mucosa. *Gallus domesticus* (*Aves*) (in collaboration with A. J. COULOMBRE)
 - f. Developmental histochemistry of the cornea. *Gallus domesticus* (*Aves*) (in collaboration with A. J. COULOMBRE)
- COUNCE, Miss S. J. M.A., Ph.D. — Osborn Zool. Lab., Yale Univ., NEW HAVEN 11, Conn., U.S.A.
- a. Egg development in the ovaries of female steriles. *Drosophila* spec. (*Diptera*)
 - b. Developmental effects of female-sterility genes. *Drosophila* spec. (*Diptera*)
- COURRIER, R. Prof. — Lab. de Morphol. expér. et Endocrinol., Coll. de France, Place Marcelin Berthelot, PARIS Ve, France
- CRAFTS, R. C. — Dept of Anat., Coll. of Med., Univ. of Cincinnati, Eden Avenue, CINCINNATI 19, Ohio, U.S.A.
(no embryological work in progress)
- CRELIN, E. S. Ph.D. — Dept of Anat., Yale Univ. School of Med., 333 Cedar St, NEW HAVEN 11, Conn., U.S.A.
- a. Mechanical factors underlying skull morphogenesis. *Gallus domesticus* (*Aves*) (in collaboration with A. J. COULOMBRE)
 - b. Development of bone and joints. *Mus musculus* (*Rodentia*)
- CRESP, J. Lic. ès Sci. — Lab. de Zool. génér. de la Fac. des Sci., Place Victor Hugo, MARSEILLE, France
- CRISP, D. J. M.A., Ph.D. — Marine Biol. Station, Univ. Coll. of North Wales, MENAI BRIDGE, Anglesey, N.Wales
- a. Rate of development of egg masses in vitro. *Balanus* spec., *Chthamalus stellatus* (*Cirripedia*)
 - b. Induction of breeding by temperature conditioning. (Mainly *Cirripedia*)
- CROISILLE, Y. Lic. ès Sci. — Lab. d'Embryol. expér. du Coll. de France, et Lab. d'Embryol. et de Tératol. expér. du C.N.R.S., 11 Place Marcelin Berthelot, PARIS Ve, France
- a. Culture de foie embryonnaire sur des milieux à base de divers extraits d'organes. *Gallus gallus* (*Aves*)
 - b. Culture d'organes embryonnaires sur des extraits homo- et hétérologues. *Gallus gallus* (*Aves*)
- CROWDER, R. E. M.D. — U. S. Naval Hospital, CAMP LEJEUNE, N.C., U.S.A.
- a. Sources of cellular contributions to the adrenal anlage. *Homo sapiens* (*Primates*)
 - b. Effect of exogenous hormones upon the adrenal development in pouch young. *Opossum virginiana* (*Marsupialia*)

Cro-Den

- CROWELL, P. S. — Dept of Zool, Indiana Univ., BLOOMINGTON, Ind., U.S.A.
- CSAPO, A. I. M.D. — Dept of Embryol., Carnegie Inst. of Washington, Wolfe and Madison Sts, BALTIMORE 5, Md, U.S.A.
- CURTIS, A. S. G. B.A. — Dept of Anat., Univ. Coll. London, LONDON W.C. 1, England
- Surface properties, movement and adhesion of embryonic cells and cancerous tissues. (*Amphibia, Aves*)
 - Dissociation and reaggregation of embryos. (*Amphibia, Aves*)
- CURY, G. — Lab. d'Histol., Dép. d'Embryol., Fac. de Méd., 31 Rue Lionnois, NANCY (Meurthe & Moselle), France
- Régulation de l'oeuf. (*Amphibia*)
- DAINTY, J. M.A. — Biophysics Unit, Univ. of Edinburgh, King's Buildings, West Mains Rd, EDINBURGH 9, Scotland
(no embryological work in progress)
- DALCQ, A. M. M.D., F.I.I.E., Prof. — Lab. d'Anat. et d'Embryol., Fac. de Méd., de l'Univ., 97 Rue aux Laines, BRUXELLES, Belgique
- Cytochemistry of early stages of development. (*Ascidiae, Mammalia*)
- DALTON, H. C. Ph.D. — Dept of Zool., New York Univ., NEW YORK, N.Y., U.S.A.
- DAMAS, H. F. C. Dr Sc., Agr.Zool., M.I.I.E., Prof. — Dépt Morphol. des Chordés, Inst. de Zool. Ed. Van Beneden, Fac. des Sci., 22 Quai Ed. Van Beneden, LIÈGE, Belgique
- Etude descriptive et comparative du développement. *Petromyzon marinus, Lampetra fluviatilis, L. planeri (Cyclostomata)*
- D'AMELIO, V. Ph.D. — Ist. di Anat. Comp., Via Archirafi 18, PALERMO, Italia
- Biochemical activities of the presumptive territories of the young gastrula. *Discoglossus pictus (Anura)*
- DAN, Mrs J. C. Ph.D. — Embryol. Section, Dept of Biol., Fac. of Sci., Tokyo Metropolitan Univ., Setagaya-ku, TOKYO, Japan
- Electron-microscope observation of spermatozoa under various experimental conditions. (*Echinodermata, Mollusca, Annelida*)
 - Study of egg-membrane lysin of spermatozoa. (*Mollusca*)
- DAN, Mrs J. C. Ph.D. — Embryol. Section, Dept of Biol., Fac. of Sci., Tokyo Metropolitan Univ., Setagaya-ku, TOKYO, Japan
- Mitotic spindle isolation and analysis. (*Echinoidea*)
 - Formation of mitotic apparatus and SH-proteins. (*Echinoidea*)
 - Mechanism of polar body formation. (*Mollusca*)
- D'ANCONA, U. Dr Nat.Sci., M.I.I.E., Prof. — Ist. di Zool. e Anat. comp., Fac. di Sci., Via Loredan 10, PADOVA, Italia
- Differentiation of the gonad. (*Vertebrata, esp. Pisces*)
 - Embryology. (*Teleostei, Ganoidea, Amphibia*)
- DANKMEIJER, J. Med.Dr. Prof. — Anat.-Embryol. Lab. of the Univ. of Leyden, Fac. of Med., Wassenaarseweg, Boerhaavekwartier, LEIDEN, Holland
- Normal and abnormal development of the heart. *Homo sapiens* and other *Animalia* (in collaboration with J. A. LOS)
 - Development of thyroid gland and teeth (investigations with radioactive isotopes) (in collaboration with P. J. BROUWER).
 - Development of uterus. *Homo sapiens (Primates)*

- d. Heart and vessels in congenital malformations. *Homo sapiens (Primates)* (in collaboration with H. A. SNELLEN, Miss A. DEKKER and Miss H. C. van INGEN)
- DASGUPTA, B. M.Sc. — Dept of Parasitol., London School of Hygiene and Tropical Med., Keppelstreet (Gowerstreet), LONDON W.C. 1, England
- a. Cytochemical investigations on development. *Plasmodium gallinaceum*, *Plasmodium cynomolgi*, *Eimeria stiedii* (Sporozoa)
- DAVIES, D. H. M.Sc., Ph.D. — Division of Fisheries, Beach Road, Sea Point, CAPE TOWN, South Africa
- a. Embryology. *Sardinops ocellata* (Pappe) (*Isospondyli, Neopterygii*)
- DAVIES, D. V. Prof. — Dept of Anat., St Thomas's Hospital Med. School, LONDON S.E. 1, England
(no embryological work in progress)
- DAVIES, F. M.D., D.Sc., Prof. — Dept of Anat., Fac. of Med., Univ. of Sheffield, SHEFFIELD, England
- a. Histological studies of conducting system of the heart. (*Mammalia*) (in collaboration with E. T. B. FRANCIS, Dept of Zool.)
- DECK, J. D. B.S., M.A., Ph.D. — Dept of Anat., School of Med., Univ. of Virginia, CHARLOTTESVILLE, Va, U.S.A.
- a. Study of innervation of larval forelimbs which have regenerated after transplantation with reversed proximo-distal polarity. *Ambystoma punctatum (Urodela)*
- b. Study of relationship between innervation and regeneration of larval limbs with reversed proximo-distal polarity. *Ambystoma punctatum (Urodela)*
- c. Study of adult limb regeneration which occurred after implantation of tadpole tissues into the limb. *Rana pipiens (Anura)*
- DEKKER, Miss A. Physician — Anat.-Embryol. Lab. of the Univ., Fac. of Med., Wassenaarseweg, Boerhaavekwartier, LEIDEN, Holland
- a. Heart and vessels in congenital malformations. *Homo sapiens (Primates)* (in collaboration with J. DANKMEIJER, H. A. SNELLEN and Miss H. C. van INGEN)
- DELGADO, R. Dr en Méd. — Lab. d'Anat., Fac. de Méd. de Paris, 45 Rue des Sts Pères, PARIS VIe, France
- a. Développement du tube digestif. *Homo sapiens (Primates)*
- DELMAS, A. Prof. — Lab. d'Anat., Fac. de Méd. de Paris, 45 Rue des Sts Pères, PARIS VIe, France
- a. Développement de l'encéphale. *Homo sapiens (Primates)*
- b. Développement anormal de l'encéphale et des organes des sens. *Mus rattus (Rodentia)*
- DEMPSEY, E. W. — Dept of Anat., Harvard Univ., Med. School, 25 Shattuck St, BOSTON 15, Mass., U.S.A.
- DENIS, H. A. Lic.Sci.Zool. — Dépt Morphol. des Chordés, Inst. de Zool. Ed. Van Beneden, Fac. des Sci., 22 Quai Ed. Van Beneden, LIÈGE, Belgique
- a. Étude du caractère progressif de la détermination de la plaque neurale. *Pleurodeles Waltlii (Urodela)*
- b. Recherche sur la genèse des organes cérébraux, par la méthode des greffes. *Pleurodeles Waltlii, Ambystoma mexicanum (Urodela)*

Den-Dra

- DENT, J. N. A.B., Ph.D., Prof. — Dept of Biol., Univ. of Virginia, CHARLOTTEVILLE, Va, U.S.A.
- Uptake of certain radioisotopes by various embryonic regions. *Hyla versicolor* (*Anura*)
 - Further studies on regeneration. *Triturus viridescens* (*Urodela*)
 - Metamorphosis of a presumably neotenic cave salamander. *Gyrinophilus palleucus* (*Urodela*)
- DENUĆÉ, J. M. Dr Zool.Sci. — Lab. voor Zool., Afd. Morphol., Universiteitsstraat 14, GENT, België.
- Physiology of development. (*Insecta*)
- DEROUX, G. Lic. ès Sci. — Station Biologique, ROSCOFF, Finistère, France
- Influence de la pénétration des fibres centripètes (au niveau des nerfs VII, latéral ant. et VIII) sur le plan d'organisation des parties céphalées du tube nerveux, après l'épibolie. *Salmo irideus* (*Teleostei*)
 - Epoque de ponte et développement larvaire. *Cornularia cornucopia* (*Alcyonaria, Coelenterata*)
- DETH, J. H. M. G. van M.D., Prof. — Anat.-Embryol. Lab. der Rijks Univ., Janskerkhof 3, UTRECHT, Holland
- Fetal endocrinology. (*Aves, Mammalia*)
- DETTLAFF, Mrs T. A. Dr Biol.Sci., M.I.I.E., Prof. — Inst. of Anim. Morphol. of the Acad. of Sci. of the U.S.S.R., Bolshaja Kalushkaja 33, MOSCOW V-71, U.S.S.R.
- Physiology of activation of the egg; the role of Ca-ions, the process of secretion. *Huso huso, Acipenser güldenstädti, A. stellatus* (*Acipenseriformes, Chondrostei*)
 - The fate of the polysaccharides in the period of fertilization. (*Acipenseriformes, Chondrostei*)
- †DETWILER, S. R. Dr, Prof. — Dept of Anat., Coll. of Physicians and Surgeons, Columbia Univ., 630 West 168th St, NEW YORK 32, N.Y., U.S.A.
(deceased)
- DEUCHAR, Miss E. M. M.A., Ph.D., M.I.I.E. — Dept of Embryol., Univ. Coll. London, Gower St, LONDON W.C. 1, England
- Effect of amino acid analogues on morphology and free amino acid content of embryonic tissues. *Xenopus laevis* (*Anura*)
 - Proteolytic activity in parts of early embryo. *Xenopus laevis* (*Anura*)
- DEVILLERS, Ch. M.I.I.E., Prof. — Lab. d'Anat. et d'Histol. comp., 1 Rue Victor Cousin, PARIS Ve, France
- Origine de l'énergie utilisée au cours du développement de l'oeuf. *Salmo fario, S. irideus* (*Teleostei*)
 - Recherches sur la symétrisation de l'oeuf. *Salmo spec.* (*Teleostei*)
- DICK, D. A. T. M.B., Ch.B. — Dept of Human Anat., The Univ. Museum, OXFORD, England
- Physiology of foetal liver. *Ovis communis* (*Ruminantia*)
- DIJK, D. E. van B.Sc. — Zool. Inst., Univ. of Stellenbosch, STELLENBOSCH, South Africa
- Ontogenesis of the cloaca. (*Anura*)
- DIMITROWA, Miss A. I. Dr — Inst. of Gener. Biol., Med. School, Univ. of Sofia, Blwd. Lenin N. 2, SOFIA, Bulgaria
- DIMOND, Sister M. T. A.B., M.S., Ph.D. — Trinity Coll., WASHINGTON 17, D.C., U.S.A.

- a. Histogenesis and interrelations of endocrines: the hypophysis under normal conditions and after treatment with thiourea. *Chelydra serpentina serpentina*, and other spp. (*Chelonia*)
- DINGLER—HAHL, Mrs E. Ch. Dr Med. — Anat. Inst. der Univ. München, Pettenkofenstr. 11, MÜNCHEN 15, Deutschland
- a. Das postnatale Wachstum der Lunge. *Felis domestica* (*Carnivora*)
- b. Bildet die Lunge nach der Geburt neue Parenchymeinheiten aus? *Felis domestica* (*Carnivora*)
- DODD, J. M. B.Sc., Ph.D. — Gatty Marine Lab., ST ANDREWS, Fife, Scotland
- DOHRN, P. M.D., Ph.D. — Stazione Zool., NAPOLI, Italia
- DOKTER, H. J. Med.Drs — Anat.-Embryol. Lab., Free Calvinistic Univ., Pr. Hendriklaan 27, AMSTERDAM Z, Holland
- a. Study of abnormal development by injecting methyl-thiouracil into eggs. *Gallus domesticus* (*Aves*)
- b. Study of influence of anti-thyroid drugs on morphogenesis. *Rattus norvegicus albinus* (*Rodentia*)
- DOLLANDER, A. Dr — Lab. d'Histol., Dép. d'Embryol., Fac. de Méd., 31 Rue Lionnois, NANCY (Meurthe & Moselle), France
- a. Etude des propriétés mécaniques du cortex de l'oeuf. (*Amphibia*)
- b. Etude des propriétés de perméabilité du cortex de l'oeuf. (*Amphibia*)
- c. Etude morphologique du cortex de l'oeuf au microscope optique et au microscope électronique. (*Amphibia*, *Mammalia*)
- d. Structure du spermatozoïde au microscope optique et au microscope électronique. (*Amphibia*) CONNET
- e. Action tératogène de l'urée. (*Amphibia*) (en collaboration avec R. MAR-
- DONALDSON, J. C. Ph.B., M.D., Prof. — Dept of Anat., School of Med., Univ. of Pittsburgh, PITTSBURGH 13, Pa, U.S.A.
- DOORENMAALEN, W. J. van M.D. — Anat.-Embryol. Inst., Municipal Univ. of Amsterdam, Mauritskade 61, AMSTERDAM O, Holland
- a. The localisation of lensproteins in lens development. *Gallus gallus* (*Aves*)
- b. Source of lensproteins in lens regeneration. *Gallus gallus* (*Aves*)
- DOSSEL, W. E. A.B., M.S., Ph.D. — Dept of Anat., School of Med., Univ. of North Carolina, CHAPEL HILL, N.C., U.S.A.
- a. Determination of the locus of origin of hypothalamic neurosecretory cells. *Gallus domesticus* (various varieties) (*Aves*)
- b. The effects of depletion and substitution of the perivesicular mesenchyme upon the development of the thyroid. *Gallus domesticus* (various varieties) (*Aves*)
- c. Regulation of size and functional activity of heterotopic, homoioplastic transplants of the thyroid. *Gallus domesticus* (various varieties) (*Aves*)
- DRAGOMIROV, N. I. Dr Biol., F.I.I.E., Prof. — Inst. of Animal Morphol. of the Acad. of Sci. of the U.S.S.R., B. Kalushskaja 33, MOSCOW V-71, U.S.S.R.
- a. The development of the sense organs of the lateral line system. *Acipenser nudiventris* Lov. (*Chondrostei*)
- DRAISMA, J. R. B.Sc. — Hubrecht Lab., Intern. Embryol. Inst., Janskerkhof 2, UTRECHT, Holland
- a. Influence of mesodermal components upon differentiation and organization of neural material. *Ambystoma mexicanum*, *Triturus* spp. (*Urodela*)

- DREYER, Miss M. V. M.Sc. — Dept of Zool., Univ. of O.F.S., BLOEM-FONTEIN, South Africa
- a. The epithelio-neural bodies. *Gallus domesticus* (*Aves*)
- DUFFEY, L. M. — Dept of Zool., Indiana Univ., BLOOMINGTON, Ind., U.S.A.
- DURANTE, Miss M. Dr — Ist. di Zool., Via Archirafi 18, PALERMO, Italia
- a. Xenoplastic gill transplantations. (*Amphibia*)
 - b. Cholinesterase in embryonic development. (*Ascidiaceae*)
- DUSHANE, G. Ph. D., Prof. — Dept of Biol., Stanford Univ., PALO ALTO, Cal., U.S.A.
- DZIALLAS, P. R. Dr med. — Anat. Inst. der Univ. München, Pettenkoferstrasse 11, MÜNCHEN 15, Deutschland
- a. Über das Verhalten der fetalen Diploevenen zu den Anlagen der Deckknochen des Schädels. *Canis familiaris*, *Felis domestica* (*Carnivora*)
 - b. Über Blutgefäße in Knochenkernen des fetalen Schädeldaches. *Canis familiaris*, *Felis domestica* (*Carnivora*)
- EAKIN, R. M. A.B., Ph.D., F.I.I.E., Prof. — Dept of Zool., Univ. of California, BERKELEY 4, Cal., U.S.A.
- EALES, Miss N. B. D.Sc. (London) — Univ. Dept of Zool., READING, Berkshire, England
- EAYRS, J. T. B.Sc., Ph.D., D.Sc. — Dept of Anat., The Med. School, Birmingham Univ., Edgbaston, BIRMINGHAM 15, England
- a. Effects of hormones on central nervous development. (*Rodentia*)
- EBERT, J. D. Ph.D., M.I.I.E. — Dept of Embryol., Carnegie Inst. of Washington, Wolfe and Madison Sts, BALTIMORE 5, Md, U.S.A.
- a. Biochemical and immunochemical analysis of the synthesis and distribution of the contractile proteins, actin, myosin (esp. H-meromyosin) and tropomyosin in the development of the heart in the early embryo. *Gallus gallus* (*Aves*) (in collaboration with R. F. RUTH)
 - b. The metabolic characteristics of the heart-forming areas of the early embryo. *Gallus gallus* (*Aves*) (in collaboration with R. F. RUTH)
 - c. Immunological studies of melanogenesis; immunochemical properties of the melanins; melanoproteins. The chemistry of the pigment-forming area in the early embryo. *Gallus gallus* (*Aves*)
 - d. Analysis of the effects of adult or late embryonic tissue transplants (chorioallantoic, intra-coelomic) on the differentiation and growth of the homologous tissues of the host embryo. *Gallus gallus* (*Aves*)
 1. Selective transfer of radioactivity from grafts to homologous host tissues.
 2. Fractionating and identification of organ-specific growth regulatory substances (inhibitory, stimulatory).
 3. Growth regulation in normal and decapitated embryos.
- EDDS, Jr., M. V. B.A., M.A., Ph.D. — Arnold Biol. Lab., Brown Univ., PROVIDENCE 12, R.I., U.S.A.
- EDE, D. A. B.Sc., M.S., Ph.D. — Dept of Zool., Univ. of Edinburgh, West Mains Rd, EDINBURGH 9, Scotland
- a. Study of the developmental effects of embryonic lethal and female sterile mutations. *Drosophila melanogaster* (*Diptera*)
 - b. Experimental study of normal embryology. *Drosophila melanogaster* (*Diptera*), *Oncopeltus fasciatus* (*Heteroptera*), *Dermestes maculatus* (*Coleoptera*)

- EDWARDS, R. G. B.Sc., Ph.D. — Inst. of Animal Genet., Univ. Dept of Genet., King's Buildings, West Mains Rd, EDINBURGH 9, Scotland
- Heteroploidy and parthenogenesis. *Mus musculus* (Rodentia)
 - Relations between sperms and eggs at fertilization. *Mus musculus*, *Rattus natalensis*, *R. norvegicus* (Rodentia)
 - Investigation of gametogenesis and of early embryonic development using radioactive tracers. *Mus musculus* (Rodentia) (in collaboration with J. L. SIRLIN)
- EEDEN, J. A. van M.Sc., D.Sc. — Dept van Dierkunde, Potchefstroom Univ., POTCHEFSTROOM, Suid-Afrika
(no embryological work in progress)
- EGUCHI, G. B.Sc. — Biol. Inst., Fac. of Sci., Nagoya Univ., Chigusa-Ku, NAGOYA, Japan
- The lens regeneration in the cyclopean monster. *Triturus pyrrhogaster* (*Urodela*)
- ELBERS, P. F. M.Sc. — Centrum voor Electronenmicroscopie, Janskerkhof 3, UTRECHT, Holland
- Electron microscopical investigation on growth and differentiation of the egg. *Limnaea stagnalis* (Gastropoda)
 - Electron microscopical investigation on the influence of Li ions on the egg. *Limnaea stagnalis* (Gastropoda)
 - Electron microscopical investigation on the influence of Li ions on the egg. *Paracentrotus lividus* (Echinodermata)
- ELLIS, R. — Dept of Anat., Harvard Univ., Med. School, 25 Shattuck St, BOSTON 15, Mass., U.S.A.
- ELSDALE, T. R. B.Sc. — Dept of Zool. and Comp. Anat., The Univ. Museum, OXFORD, England
- Nuclear transplantation. *Xenopus laevis*, *Discoglossus pictus* etc. (Anura) (in collaboration with M. FISCHBERG)
- EMANUELSSON, H. Fil.lic. — Zoophysiol. Inst., Univ. of Lund, LUND, Sweden
- ENDO, Y. M.Sc. — Biol. Lab., Keio Univ., YOKOHAMA, Hiyoshi, Japan
- Electron microscopical study of fertilization. (*Echinoidea*)
 - A study of the fertilization membrane. (*Echinoidea*)
- ENEMAR, E. A. W. Fil.lic. — Embryol. Dept, Zool. Inst. of the Univ. of Lund, LUND, Sweden
- The development of the pituitary (Rodentia)
- ENGELBRECHT, D. van Z. M.Sc. — Zool. Inst., Univ. of Stellenbosch, STELLENBOSCH, South Africa
- ENGELMANN, F. Dr Phil. — Zool. Inst. der Univ. Bern, Sahlistr. 8, BERN, Schweiz
- Untersuchungen der hormonalen Steuerung der Häutungen. *Leucophaea Maderae* (Orthoptera)
- ENGLÄNDER, H. Dr rer.nat. — Zool. Inst. der Univ. Köln, Kerpenerstr. 13, KÖLN-LINDENTHAL, Deutschland
- Regionalspezifische Induktion. (*Urodela*)
- ERENÇİN, Z. Med.Veter.Dr. Prof. — Inst. of Histol. and Embryol., Veter. Coll. of the Univ., ANKARA, Turkey
(no embryological work in progress)
- EVANS, D. R. B.S., M.S. — Dept of Biol., The Johns Hopkins Univ., Charles and 34th Sts, BALTIMORE 18, Md, U.S.A.

Eva-Fin

- EVANS, H. J. Ph.D. — Dept of Zool., Syracuse Univ., SYRACUSE 10, N.Y., U.S.A.
- Action of cortisone on the developing embryo. *Gallus domesticus*, *Rattus rattus* (*Amniota*)
- EVOLA—MALTESE, Mrs C. Dr — Ist. di Zool., Via Archirafi 18, PALERMO, Italia
- Inhibition of alkaline phosphatase in embryonic development. (*Ascidia-ceae*)
- EYAL—GILADI, Mrs H. M.Sc., Ph.D. — Dept of Zool., Hebrew Univ., JERUSALEM, Israel
- Problems concerning induction of mesoderm. (*Amphibia*)
 - An attempt to measure the curves of activation and transformation in the process of neural induction. (*Amphibia*)
 - Problems concerning the induction of the oral hypophysis. *Pleurodeles spec.* (*Urodela*)
- EYMANN, H. — Zool. Inst. der Univ. Bern, Sahlistr. 8, BERN, Schweiz
- EYRIES, Ch. Dr en Méd. — Lab. d'Anat., Fac. de Méd. de Paris, 45 Rue des Sts Pères, PARIS VIe, France
- Oreille interne et complexe acoustico-facial. *Homo sapiens* (*Primates*)
- FAASSEN, F. Van Dr — Anat.-Embryol. Lab., Free Calvinistic Univ., Pr. Hendriklaan 27, AMSTERDAM Z, Holland
- The influence of hypoxaemia during gravidity on the development of the cerebellum of the foetus. *Rattus norvegicus* (*Rodentia*) (in collaboration with F. STAM and F. C. SCHOLTEN)
- FABER, J. M.Sc. — Hubrecht Lab., Intern. Embryol. Inst., Janskerkhof 2, UTRECHT, Holland
- The self-differentiation of the blastema and the influence of the stump in limb regeneration. *Ambystoma mexicanum* (*Urodela*)
- FANKHAUSER, G. Ph.D., F.I.I.E., Prof. — Dept of Biol., Princeton Univ., PRINCETON, N.J., U.S.A.
- The offspring of polyploids; their chromosome number, mortality, pathology etc. *Ambystoma mexicanum* (*Urodela*) (in collaboration with R. R. HUMPHREY)
 - Development of diploid and heteroploid embryos implanted under the skin of adults. *Triturus spec.* (*Urodela*)
 - Measurements of response to tactile stimulation and of swimming capacity in diploid and triploid larvae. *Triturus spec.* (*Urodela*)
- FARINELLA—FERRUZZA, Mrs N. Dr — Ist. di Zool., Via Archirafi 18, PALERMO, Italia
- Xenoplastic tailbud transplantations. (*Amphibia*)
 - Combinations and transplantation of blastomeres. (*Ascidia-ceae*)
- FAURÉ-FREMIET, E. Dr, F.I.I.E., Prof. hon. — Lab. d'Embryol. expér., Coll. de France, Place Marcelin Berthelot, PARIS Ve, France
- Morphologie comparée et morphogénèse. (*Ciliata*) (en collaboration avec Miss M. HAMARD)
- FAUTREZ, J. C. M.D., Member of the Royal Flemish Acad. of Sci., M.I.I.E., Prof. — Lab. of Anat., Fac. of Med., Univ. of Gent, Bylokekaai 1, GENT, Belgium
- FAUTREZ—FIRLEFYN, Mrs N. J. — Lab. of Anat., Fac. of Med., Univ. of Gent, Bylokekaai 1, GENT, Belgium TOON, Canada
- FEDOROFF, S. M.A. — Dept of Anat., Univ. of Saskatchewan, SASKA-

- a. Chemical changes in embryonic and adult tissues due to chilling.
 b. Serum toxicity tested on cell cultures.
- FELDMAN, M. M.Sc., Ph.D. — Dept of Exper. Biol., Weizman Inst. of Sci., REHOVOTH, Israel
- a. The distribution and synthesis of organ-specific proteins: antigens and enzymes. *Gallus spec. (Aves)*, *Mus spec. (Rodentia)* (in collaboration with D. YAFFE)
- FELL, Miss H. B. Dr, F.I.I.E. — Strangeways Research Lab., Wort's Causeway, CAMBRIDGE, England
- FELTS, W. J. L. A.B., A.M., Ph.D. — Dept of Anat., School of Med., Univ. of Minnesota, MINNEAPOLIS 14, Minn., U.S.A.
- a. Skeletal growth and development.
 b. Effects of mechanical factors on bone and cartilage growth.
 c. Infectious disease and skeletal tissue growth. (*Rodentia*)
 d. Immune reaction to hard connective tissue transplants. (*Rodentia*)
 e. Blood supply to grafts. (*Rodentia*)
- FENART, R. — Lab. d'Anat., Fac. de Méd. de Paris, 45 Rue des Sts Pères, PARIS VIe, France
- a. Développement du plexus brachial. *Homo sapiens (Primates)* (en collaboration avec G. H. G. OLIVIER)
- FEO, V. J. De B.S., M.S., Ph.D. — Dept of Embryol., Carnegie Inst. of Washington, Wolfe and Madison Sts, BALTIMORE 5, Md, U.S.A.
- a. Pseudopregnancy and the nature of uterine sensitivity. *Rattus rattus (Rodentia)*
 b. Influence of steroids on deciduoma formation. *Rattus rattus (Rodentia)*
 c. Mechanism of deciduoma formation. *Rattus rattus (Rodentia)*
- FERBER-SCHMIDT, L. von — Anat. Inst. der Univ., Burgstrasse 51, GÖTTINGEN, Deutschland.
- a. Differenzierungsbewegungen der Lymphknoten. *Homo sapiens (Primates)* (gemeinsam mit E. BLECHSCHMIDT)
- FEREMUTSCH, K. Dr Med. — Hirnanat. Inst. der Psychiatr. Univ. Klinik, Med. Fak., Waldau, BERN, Schweiz
- FICQ, Mrs A. A. Dr en Sci.Biol. — Lab. de Morphol. anim., Univ. libre de Bruxelles, 1850 Chaussée de Wavre, BRUXELLES-Auderghem, Belgique
- a. Application d'une méthode autoradiographique par irradiation neutronique, au dosage et à la localisation du Lithium dans des embryons. *Ambystoma spec.*, *Pleurodeles spec. (Urodela)*
 b. Application d'une méthode autoradiographique à l'étude du phénomène d'induction. *Ambystoma spec.*, *Pleurodeles spec.*, *Rana spec. (Amphibia)*
 c. Etude autoradiographique du métabolisme au cours de l'oogénèse. *Asterias spec. (Asteroidea, Echinodermata)*, *Rana spec. (Anura)*
 d. Observations autoradiographiques sur l'oogénèse et la morphogénèse. *Pleurodeles spec.*, *Triturus spec. (Urodela)*, *Rana fusca (Anura)*
- FILOGAMO, G. Dr — Inst. of human Anat., Corso Massimo d'Azeglio 52, TORINO, Italy
- a. Histo- and organotypical growth of the embryonic liver in vitro. *Gallus domesticus (Aves)*
- FINAMORE, F. J. B.A., M.S., Ph.D. — Southern Illinois Univ., CARBONDALE, Ill., U.S.A.
- a. Nucleic acid metabolism in embryos. *Rana pipiens (Anura)*

Finamore-Fra

- b. Acid-soluble nucleotides in embryos (P^{32} study). *Rana pipiens* (*Anura*)
c. Phosphate transfer in hybrids. *Rana pipiens* (*Anura*)
FINGER, I. B.A., Ph.D. — Dept of Biol., Haverford Coll., HAVERFORD, Pa, U.S.A.
- a. Immunogenetic studies in relation to cell differentiation. *Paramecium aurelia* (*Ciliata*)
FISCHBERG, M. Dr Phil. (Zürich), M.A. (Oxford), M.I.I.E. — Dept of Zool. and Comp. Anat., The Univ. Museum, OXFORD, England
- a. Nuclear transplantation. *Xenopus laevis*, *Discoglossus pictus* etc. (*Anura*) (in collaboration with T. R. ELSDALE)
FISCHIAROLO, G. Dr — Ist. di Zool., Via Archirafi 18, PALERMO, Italia
- a. The determination of the entoderm. (*Amphibia*)
b. Mitochondria and respiratory enzymes in development. (*Ascidiae*)
FISHER, F. J. F. M.Sc., Ph.D. — School of Bot., Univ. of Melbourne, CARLTON N3, Victoria, Australia
- FISK, A. M.Sc. — Dept of Biol., St Mary's Hosp. Med. School, Norfolk Place, Paddington, LONDON W. 2, England
- FITZGERALD, L. R. Ph.D. — Div. of Anat., Med. Units Div., Fac. of Biol. Sci., Univ. of Tennessee, MEMPHIS 3, Tenn., U.S.A.
- a. Effects of temperature on neonates and development of thermoregulatory mechanismus. *Mus musculus* (*Rodentia*)
b. Metabolic characteristics of the neonatal period. *Mus musculus* (*Rodentia*)
c. Oxygen consumption of embryos. *Mus musculus* (*Rodentia*)
FLEISCHHAUER, K. Dr med. — Anat. Inst. der Univ. Kiel, Neue Univ., Haus 30, KIEL, Deutschland
- a. Postnatal development of the Ammons Formation. (*Mammalia*)
FLEXNER, L. B. B.S., M.D., M.I.I.E., Prof. — Dept of Anat., School of Med., Univ. of Pennsylvania, PHILADELPHIA 4, Pa, U.S.A.
- FLYNN, T. THOMSON M.B.E., D.Sc., F.I.I.E., Prof. — University College, Gower Street, LONDON W.C. 1, England
- a. Development of the neural crest. (*Mammalia*)
FOLEY, Mrs E. P. M.B., B.Ch., B.A.O. — Dept of Anat., Univ. of Liverpool, LIVERPOOL, England
- a. Studies on the development of the jejunum and ileum in relation to their vascular supply. (*Mammalia*)
FOLLENIUS, E. Lic.ès Sci. — Lab. de Zool. et d'Embryol. expér., Inst. de Zool. et de Biol. génér., 12 Rue de l'Université, STRASBOURG, France
- a. Origine de la lignée germinale, morphogénèse et différenciation des gonades. *Xiphophorus Helli*, *Lebistes reticulatus*, *Barbus spec.* (*Teleostei*) (en collaboration avec J. H. VIVIEN)
FONSECA SACARRÃO, G. da Dr Sc. — Museu e Lab. Zool. d. Fac. d. Ci., Univ. d. Lisboa, LISBOA, Portugal
- a. Development of the "resisting apparatus" of the mantle-funnel, and of the epistellar body. (*Cephalopoda*)
FOOTE, Ch. L. B.S., M.S., Ph.D., M.I.I.E. — Zool. Dept, Southern Illinois Univ., CARBONDALE, Ill., U.S.A.
- a. Studies on sex differentiation. *Rana clamitans*, *R. catesbiana* (*Anura*) (in collaboration with Mrs F. M. FOOTE)
b. In vitro cultivation of gonads. *Rana clamitans*, *R. catesbiana* (*Anura*) (in collaboration with Mrs F. M. FOOTE)

- FOOTE, Mrs F. M. A.B., A.M., Ph.D. — Zool. Dept, Southern Illinois Univ., CARBONDALE, Ill., U.S.A.
- Studies on sex differentiation. *Rana clamitans*, *R. catesbiana* (*Anura*) (in collaboration with Ch. L. FOOTE)
 - In vitro cultivation of gonads. *Rana clamitans*, *R. catesbeiana* (*Anura*) (in collaboration with Ch. L. FOOTE)
- FORD, E. H. R. M.A., M.D. — Anat. School, Univ. of Cambridge, CAMBRIDGE, England
- Growth of the foetal skull. *Homo sapiens* (*Primates*)
 - Influence of thyroid on skull growth (post-natal). *Rattus rattus* (*Rodentia*)
- FORD, P. B.Sc., Ph.D., Prof. — Dept of Zool., Univ. of British Columbia, VANCOUVER, B.C., Canada
- The morphogenesis and structure of the gastric gland. *Castor canadensis* (Kuhl) (*Rodentia*)
- FORSBERG, J. G. — Dept of Anat., University, LUND, Sweden
- Hormonal influence on development of genital organs. *Rattus spec.* (*Rodentia*) (in collaboration with S. BENGMARK)
- FOWLER, I. B.S., M.S., Ph.D. — Dept of Anat., School of Med., Univ. of North Carolina, CHAPEL HILL, N.C., U.S.A.
- The intrinsic control of canalization in the development of the tailbud neural tube. *Gallus domesticus* (White Rock) (*Aves*)
 - In vitro studies of the differentiation of somites. *Gallus domesticus*
 - Effects of carcinogens upon cellular differentiation. *Gallus domesticus*
- FOX, H. B.Sc., Ph.D. — Dept of Zool. and Comp. Anat., Univ. Coll. London, Gower St, LONDON W.C. 1, England
- Effect of different osmotic solutions on the development of the pronephros. *Triton helveticus* (*Urodela*)
 - Effect of decapsulation on the development of the pronephros. *Triton helveticus* (*Urodela*)
 - The musculature in the larval head. (*Urodela*)
 - Development of the head of the larva. *Hynobius nebulosus* (*Urodela*)
 - Morphology and homologies of the pronephros. (*Urodela*)
- FRANCIS, E. T. B. B.Sc., Ph.D., Dr — Dept of Zool., Univ. of Sheffield, SHEFFIELD, England
- The development and histogenesis of the conducting system of the heart. (*Mammalia*) (in collaboration with F. DAVIES, Dept of Anat.)
- FRANÇOIS, Y. Dr ès Sci. — Lab. d'Anat. comp., Fac. des Sci., 1 Rue Victor Cousin, PARIS Ve, France
- Anatomy and morphogenesis of the fins and vertebrae. *Salmo* and other spp. (*Teleostei*)
- FRANZÉN, Å. S. Fil.Dr — Zool. Inst., Uppsala Univ., UPPSALA, Sweden
- Comparative study of the spermatozoon and spermatogenesis. (*Vertebrata*)
- FRASER, A. S. Ph.D. — C.S.I.R.O. Anim. Gen. Sect., c/o Dept of Zool., Univ. of Sydney, SYDNEY, N.S.W., Australia
- FRASER, F. C. Ph.D., M.D. — Dept of Genetics, McGill Univ., MONTREAL, Quebec, Canada
- The experimental production of congenital defects, chiefly by maternal treatment with cortisone. *Mus musculus* (*Rodentia*)

- b. Mechanism of embryonic palate closure, and factors that interfere with it. *Mus musculus* (*Rodentia*)
- FRASER, R. C. B.S., M.S., Ph.D. — Dept of Zool. and Entomol., Univ. of Tennessee, KNOXVILLE, Tenn., U.S.A.
- a. Physiological studies of early embryogeny. *Gallus domesticus* (*Aves*)
- b. The role of the iodine carrier in metamorphosis. *Rana pipiens* (*Anura*)
- c. Blood supply in limb regeneration. *Rana pipiens* (*Anura*)
- d. Tumor growth in embryonate systems. *Gallus domesticus* (*Aves*)
- FRAZER, J. F. D. M.A., D.M., Ph.D. — Dept of Physiol., Charing Cross Hospital Med. School, Chandos Place, LONDON W.C. 2, England
- a. Morphology and activation of spermatozoa. (*Amphibia*)
- b. Endocrinology of reproduction. *Gastrotheca marsupiatum* (*Anura*)
- FRIANT, Mrs M. Dr ès Sci., Dr en Mèd., Prof. — Lab. de Zool., Muséum Nat. d'Hist. Nat., 55 Rue de Buffon, PARIS Ve, France
- a. Development of the skeleton. (*Reptilia, Aves, Mammalia*)
- b. Development of the teeth. (*Mammalia*)
- c. Development of the brain. (*Mammalia*)
- d. Development of pterylosis. (*Aves*)
- e. Development of cartilage, bone and horn. (*Vertebrata*)
- FRICK, H. Dr Med. — Dr Senckenberg. Anat. Inst., Med. Fak. der Univ., Ludwig Rehnstr. 14, FRANKFURT/Main-Süd, Deutschland
- FROHLICH, A. — Inst. of Animal Genet., Univ. Dept of Genet., King's Buildings, West Mains Rd, EDINBURGH 9, Scotland
- a. Differentiation in tissue culture. *Gallus spec.* (*Aves*) (in collaboration with Mrs R. M. CLAYTON—FREEDMAN)
- b. Immunological study of nucleoproteins. *Gallus spec.* (*Aves*) (in collaboration with F. BILLET and Mrs R. M. CLAYTON—FREEDMAN)
- FROST, D. M.S. — Coll. of Pharmacy, Rutgers Univ., NEWARK, N.J., U.S.A. *descens* (*Urodela*)
- a. Causal analysis of factors governing lens regeneration. *Triturus viridifluus* (*Urodela*)
- FUJII, S. D.Sc., Prof. — Biol. Inst., Kobe Univ., KOBE, Japan
- a. Developmental and genetical studies on the imaginal discs („Bar“, „Lobe“, and eyeless mutants). *Drosophila melanogaster* (*Diptera*)
- FUJII, T. Dr Sci., Prof. — Zool. Inst., Fac. of Sci., Tokyo Univ., TOKYO, Japan
- a. The nucleolus and its possible role in mitosis, as seen in living cells. (*Echinodermata; Mammalia*)
- b. Chemical nature of the organizer. (*Amphibia*)
- FUKUDA, S. D.Sc. — Katakura Sericult. Exper. Stat., MATSUMOTO CITY, Japan
- GABIE—GUBBAY, Mrs V. B.Sc., Ph.D. — Dept of Zool., Univ. of the Witwatersrand, Milner Park, JOHANNESBURG, South Africa
- a. The eye cup-lens correlation. *Rana angolensis* (*Anura*)
- GAILLARD, P. J. Med.Dr, Prof. — Lab. for Cytol. and exper. Histol., Fac. of Med., Univ. of Leyde, Rijnsburgerweg 10, Boerhaavekwartier, LEIDEN, Holland
- a. Developmental potencies of the fetal germinal epithelium in explants. *Homo sapiens* (*Primates*) (*Aves*)
- b. Functional activity of the parathyroid gland in the embryo. *Gallus gallus* with Mrs R. M. CLAYTON-FREEDMAN)

- GALLERA, J. Ph.D., M.I.I.E. — Inst. d'Anat., Fac. de Méd., Univ. de Genève, 20 Rue Ecole de Méd., GENÈVE, Suisse
- Etude descriptive du développement de l'innervation du coeur. *Gallus spec. (Aves)* (en collaboration avec J. A. BAUMANN)
 - Etude expérimentale sur le développement histogénétique du système nerveux. (*Amphibia*)
 - Etude expérimentale sur l'induction du système nerveux par la méthode de greffes et d'explantation. (*Amphibia*)
- GALLIEN, L. Dr ès Sci., F.I.I.E., Prof. — Lab. d'Embryol., Fac. des Sci., Univ. de Paris, 12 Rue Cuvier, PARIS Ve, France
- GANGULY, B. M.Sc. — Dept of Zool., Presidency Coll., College St. CALCUTTA 12, India
- Cytochemistry. (*Porifera*)
 - Physiology of cell-contact. (*Porifera*) (in collaboration with S. MOOKERJEE)
- GANGULY, D. N. Prof. — Dept of Zool., Calcutta Univ., 35 Ballygunj Circular Road, CALCUTTA 19, India
- GARDNER, E. — Dept of Anat., Coll. of Med., Wayne State Univ., DETROIT 7, Mich., U.S.A.
- Development of skeleton and joints of foot in embryo and fetus. *Homo sapiens (Primates)* (in collaboration with D. J. GRAY and R. O'R'HILLY) U.S.A.
- GATES, A. H. B.S. — R. B. Jackson Memorial Lab., BAR HARBOR, Me.
- Influence of ovogenesis and atresia upon response of prepuberal animals to exogenous gonadotropins. *Mus musculus (Rodentia)*
 - Influence of maternal uterine environment upon development of non-genic characters as studied by egg transfer. *Mus musculus (Rodentia)*
- GAYÈT, J. F. Dr ès Sci., Prof. — Lab. de Physiol. Génér., 30, Rue Sainte-Cathérine, NANCY, France
- Recherches expérimentales sur le développement biochimique et fonctionnel des lobes optiques. *Gallus domesticus (Aves)*
 - Recherches expérimentales sur la chronologie du développement biochimique au niveau de l'encéphale. *Gallus domesticus (Aves)* (en collaboration avec J. SCHWANDER)
 - Recherches expérimentales sur le développement cytochimique des lobes optiques. *Gallus domesticus (Aves)* (en collaboration avec Miss A. BONICHON)
- GEIGER, W. Dr Phil. — Zool. Inst. der Univ. Bern, Sahlistr. 8, BERN, Schweiz
- GEIGY-HEESE, R. Dr, Prof. — Schweiz. Tropeninst., Socinstr. 57 — Zool. Anstalt der Univ., Rheinsprung 9, BASEL, Schweiz
- Endocrinologie der Metamorphose (Xenoplastische Transplantation induktiver Organe). (*Insecta*)
 - Spermatogenese, Ovogenese und Embryonalentwicklung. (*Argasidae, Acarina, Arachnoidea*)
 - Uebertragung von Spirochaetosen über das mütterliche Ovarium auf die Embryonen und damit auf die Nachkommen der nächsten Generation. (*Ixodidae, Acarina, Arachnoidea*)
 - Gewebezüchtung. (*Arthropoda*)
- GEILENKIRCHEN, W. L. M. M.Sc. — Zool. Lab. der Rijks Univ., Janskerkhof 3, UTRECHT, Holland

Geilenkirchen-Gon

- a. Metabolism and respiration of egg and embryo. *Limnaca stagnalis* (Gastropoda)
 - b. Influence of various kations on development. *Limnaea stagnalis* (Gastropoda) (in collaboration with Chr. P. RAVEN)
 - c. Mitotic rhythm in reduced weight (weight below water) during cleavage. *Psammochinus microtuberculatus* (Echinoidea) (in collaboration with E. ZEUTHEN, Copenhagen)
- GENNARO, Jr., J. F. Ph.D. — Dept of Anat., Coll. of Med., State Univ. of New York, 350 Henry St, BROOKLYN 1, N.Y., U.S.A.
- GÉRARD, P. M.D., F.I.I.E., Prof.honor. — Fac. de Méd. de l'Univ., 97 Rue aux Laines, BRUXELLES, Belgique
- GEYER—DUSZYŃSKA, Mrs I. Mgr.phil. — Dept of Cytol., Warszawa Univ., Krakowskie Przedmieście 26/28, WARSZAWA, Poland
- a. Experimental studies on the influence of protoplasmic factors on the elimination process of somatic chromosomes in embryos. (*Cecidomyiidae*, *Diptera*)
 - b. Experimental studies on germ line chromosomes. The fate of germ cells with somatic chromosome number. (*Cecidomyiidae*, *Diptera*)
- GHIRARDELLI, E. Prof. — Ist. di Zool., Via S. Giacomo 9, BOLOGNA, Italia
- a. L'action de quelques sels sur le développement de l'oeuf. *Spadella spec.* (*Chaetognatha*)
 - b. La formation des cellules germinales. *Spadella spec.* (*Chaetognatha*)
 - c. Régénération. *Spadella spec.* (*Chaetognatha*)
- GIDHOLM, L. Fil.kand. — Zool. Inst., Uppsala Univ., UPPSALA, Sweden
- a. Larval development. (*Syllidae*)
- GILBERT, Miss C. M.Sc., D.Sc. (Rand) — Anat. Dept, Med. School, Univ. of Witwatersrand, Hospital Hill, JOHANNESBURG, S. Africa
- GILBERT, P. W. A.B., Ph.D., Prof. — Dept of Zool., Cornell Univ., ITHACA, N.Y., U.S.A.
- a. Studies on reproductive habits and structures, especially the clasper mechanism and the function of the siphon sacs. (*Elasmobranchii*)
 - b. Gestation and parturition in representative species. *Urolophus jamaicensis*, *Dasyatis americana* (*Elasmobranchii*)
- GILLMAN, J. D.Sc., M.B., Ch.B. (Rand), Prof. — Physiol. Dept, Med. School, Univ. of Witwatersrand, Hospital Hill, JOHANNESBURG, South Africa
(no embryological work in progress)
- GINSBURG, Mrs A. S. Cand.Biol.Sci. — Inst. of Animal Morphol. of the Acad. of Sci. of the U.S.S.R., Bolshaja Kalushskaja 33, MOSCOW V-71, U.S.S.R.
- a. Cytology of fertilization; experimental polyspermy. *Huso huso*, *Acipenser guldenstädti*, *A.stellatus* (*Acipenseriformes*, *Chondrostei*)
- GIROUD, A. F.I.I.E., Prof. — Lab. d'Embryol., Fac. de Méd., 45 Rue des Sts Pères, PARIS VIe, France
- a. Recherches sur l'influence tératogène des avitaminoses maternelles. *Mus rattus* (*Rodentia*)
 - b. Recherches sur l'influence tératogène des intoxications maternelles. *Mus rattus* (*Rodentia*)
 - c. Etude des cas tératologiques individuels. *Homo sapiens* (*Primates*)

- d. Développement anormal de l'encéphale. *Mus rattus* (Rodentia)
- GITLIN, G. B.Sc., Ph.D., M.B., Ch.B. — Dept of Anat., Hadassah Med. School, Hebrew Univ., JERUSALEM, Israel
- a. Origin of epithelium of cervical canals of uterus. *Mus norvegicus albinus* (Rodentia)
- b. Forelimb regeneration in the adult. *Xenopus laevis* (Anura)
- c. Site of blastocyst implantation. *Mus norvegicus albinus* (Rodentia)
- GLADE, R. W. B.A., M.S., Ph.D. — Biol. Dept, American Univ., BELMONT, Lebanon
- a. Effect of tail skin on forelimb regeneration. *Triturus viridescens* (Urodela)
- GLENISTER, T. W. M.B., B.S., Ph.D. — Anat. Dept, Charing Cross Hosp. Med. School, 62 Chandos Place, LONDON W.C. 2, England
- a. Reaction of genital tract tissues to hormones in vitro. (Mammalia)
- b. Implantation. (Mammalia)
- c. The early embryology. *Macrorhinus* spec. (Pinnipedia)
- d. Activation of spermatozoa with gonadotrophins. (Amphibia, Mammalia)
- GLIMSTEDT, G. Med.Dr, Prof. — Tornblad-Inst. for comp. Embryol., Biskopsgatan 7, LUND, Sweden
(no embryological work in progress)
- GLOOR, H. J. Ph.D., Prof. — Genet. Inst. der Rijks Univ., 5e Binnenvestgracht 8, LEIDEN, Holland
- a. Differentiation in imaginal discs. *Drosophila melanogaster* (Diptera)
- GOBETTO, A. Dott. — Ist. di Anat. veter., Via Nizza 52, TORINO, Italia
(no embryological work in progress)
- GODINA, G. Prof. — Ist. di Anat. veter., Via Nizza 52, TORINO, Italia
- a. Researches on the differentiation and growth in vitro of the neurons of the embryonic nervous centres. *Gallus domesticus* (Aves)
- b. Various growth modalities of the neurites in in vitro explants of nervous tissue. *Gallus domesticus* (Aves)
- GOEDBLOED, J. F. Med.Drs — Anat.-Embryol. Lab. of the Univ. of Leyden, Wassenaarseweg, Boerhaavekwartier, LEIDEN, Holland
- a. Development of the ear and the tympanic cavity. *Homo sapiens* (Primates)
- GOLDIE, M. — Dept of Zool., Univ. of Connecticut, STORRS, Conn., U.S.A.
- a. Ontogenesis of enzymes. *Gallus domesticus* (Aves) (in collaboration with H. CLARK)
- GOLDMAN, A. S. A.B., Sc.M. — Upstate Med. Center, State Univ. of New York, SYRACUSE 10, N.Y., U.S.A.
- GOLDSMITH, E. D. Dr, Prof. — Dept of Histol., Coll. of Dentistry, New York Univ., 477 First Ave, NEW YORK 16, N.Y., U.S.A.
- GOMES FERREIRA, J. V. Dr — Inst. de Histol. e Embriol., Fac. de Med., Avenida 28 de Maio, LISBOA, Portugal
- a. Recherches sur la migration des gonocytes. *Cavia Cobaya* (Rodentia)
- GOMOT, L. Lic.ès Sci. — Lab. de Zool., 1 Avenue Vercingétorix, CLERMONT-FERRAND, France
- a. Etude du développement embryonnaire de la glande uropygienne. (Aves)
- GONTCHAROFF, Miss M. Dr ès Sci. — Lab. d'Evolution des Etres organisés, Fac. des Sci. de Paris, 105 Boulevard Raspail, PARIS VIe, France

Gon-Gro

- GONZALEZ, F. B.S., M.S., Ph.D. — Univ. of Texas Dental Branch, P.O. Box 20068, HOUSTON 25, Texas, U.S.A.
- Study of factors involved in survival of frozen embryonic tissues. *Gallus domesticus* (Aves)
 - Resumption of development after freezing of organ rudiments. *Gallus domesticus* (Aves)
 - Conversion of folic to folinic acid during development. *Gallus domesticus* (Aves)
- GONZALEZ GUZMAN, I. Dr. — Instituto de Estudios Medicos y Biologicos, Univ. Nac. Auton. de México, Apartado Postal 8109, MEXICO, D.F., México
- GONZÁLEZ-RAMIREZ, J. M.D. — Inst. de Estudios Med. y Biol., Univ. Nac. Auton., Apartado Postal 8109, MÉXICO D.F., México
- Tumor localizing labelled antibodies.
- GOODHART, C. B. M.A., Ph.D. — Univ. Museum of Zool., Univ. of Cambridge, Downing St., CAMBRIDGE, England
- (no embryological work in progress)
- GORINI, Miss I. Dr Biol. Sci. — Ist. di Zool. e Anat. comp., Univ. di Milano, Via Celoria 10, MILANO, Italia
- GOSS, R. J. A.B., A.M., Ph.D. — Arnold Biol. Lab., Brown Univ., PROVIDENCE 12, R.I., U.S.A.
- Fin and taste barbel regeneration. *Ameiurus* spec. (Pisces)
 - Regeneration of lower jaws. *Triturus* spec. (Urodela)
 - Morphogenesis and regulation in limb regenerates. *Triturus* spec. (Urodela)
- GÖSZWALD, K. Dr Phil., Dr habil.rer. nat., Prof. — Inst. für Angewandte Zool. der Univ., Naturw. Fak., Röntgenring 10, WÜRZBURG, Deutschland
- GOTHIÉ, Miss M. M. C. S. M.D., Dr ès Sci. — Lab. d'Hormonol. et Cytol. Expér., Ecole pratique des Hautes Etudes, Hopital Broca, 111 Rue L. M. Nordmann, PARIS XIII, France
- Etude de la fécondation, de la migration de l'oeuf dans la trompe de Fallope, à l'aide du ^{35}S utilisé sous forme de $^{35}\text{SO}_4\text{Na}_2$ ou de cystine. *Oryctolagus cuniculus* (Lagomorpha) (en collaboration avec R. MORICARD)
 - Etude des sécrétions cervicales, utérines et tubaires, en rapport avec les phénomènes de l'ascension spermatique, de la fécondation, de la segmentation, et de la nidation. *Oryctolagus cuniculus* (Lagomorpha) (en collaboration avec R. MORICARD et J. BELAISCH)
 - Décoloration du dichlorophenol indophenol (DPIP) par l'ovocyte. Etude par micro-injection quantitative. *Mus musculus* (Rodentia) (en collaboration avec R. MORICARD et O. BAIOCCHI)
- GOTO, T. M.A. — Biol. Lab., Keio Univ., YOKOHAMA, Hiyoshi, Japan
- Studies on the purification of fluorescent substances and their biological meanings. (*Amphibia*)
 - Studies on the influence of the pterin substances upon development. *Bombyx mori* (Lepidoptera), *Rana nigromaculata* (Anura)
- GOULD, R. P. B.Sc., M.Sc. — Anat. Dept, Middlesex Hosp., Med. School, LONDON W. 1, England
- GRABOWSKI, C. T. B.S., Ph.D. — Dept of Anat., School of Med., Univ. of Pittsburgh, PITTSBURGH 13, Pa, U.S.A.

- a. Experimental analysis of induction and early development of the central (*Aves*)
 - b. Role of Hensen's node in early development. *Gallus domesticus* (*Aves*)
 - c. Development of the notochord forming system. *Gallus domesticus* (*Aves*)
 - d. Teratological effects of hypoxia. *Gallus domesticus* (*Aves*)
- GRANT, Ph. Dr — Inst. for Cancer Research, 7701 Burholme Ave, PHILADELPHIA 11, Pa., U.S.A.
- GRAUMANN, W. Dr Med., Prof. — Anat. Inst. der Univ., Burgstrasse 51, GÖTTINGEN, Deutschland
- a. Histochemie von Entwicklungsprozessen, spec. Kohlenhydrate (zur Zeit: Eientwicklung, Implantation). *Mesocricetus auratus* (*Rodentia*)
- GRAY, D. J. — Dept of Anat., Coll. of Med., Wayne State Univ., DETROIT 7, Mich., U.S.A.
- a. Development of skeleton and joints of foot in embryo and fetus. *Homo sapiens* (*Primates*) (in collaboration with E. GARDNER and R. O'RAHILLY)
- GRAY, J. Prof. — Univ. Museum of Zool., Univ. of Cambridge, Downing St, CAMBRIDGE, England
- a. Sperm and fertilization (in collaboration with Lord ROTHSCCHILD).
- GRECA, M. LA Dr Nat.Sci. — Ist. di Zool. dell'Università di Napoli, Via Mezzocannone 8, NAPOLI, Italia
- a. Istologia e citologia delle gonadi, con particolare riferimento alla vitellogenesi. (*Orthoptera*)
 - b. Rigenerazione, con particolare riferimento ai blastemi regenerativi. (*Polychaeta*)
- GREEN, Mrs E. UFFORD A.B., M.A., Ph.D. — Dept of Biol., Haverford Coll., HAVERFORD, Pa, U.S.A.
- a. Morphological, cytological and cytochemical studies of the effects of carcinogens on early development and larval growth. *Rana spec.* (*Anura*)
- GREGG, J. H. B.S., M.S., Ph.D. — Dept of Biology, Univ. of Florida, GAINESVILLE, Florida, U.S.A.
- a. Serological investigations of cell adhesion. *Dictyostelium discoideum* (*Acrasiales*)
- GREGG, J. R. B.S., Ph.D. — Dept of Zool., Columbia Univ., Broadway and 116th St, NEW YORK 27, N.Y., U.S.A.
- a. Metabolism of normal animals and hybrids. *Rana pipiens*, *R. pipiens* x *R. sylvatica* (*Anura*)
 - b. Metabolism of normal and hybrid tissue-breis. *Rana pipiens*, *R. pipiens* ♀ x *R. sylvatica* ♂ (*Anura*)
- GREULICH, R. C. B.A., Ph.D. — Dept of Anat., School of Med., Univ. of Calif., LOS ANGELES, Cal., U.S.A.
- a. Radioautographic studies of chorio-allantoic placenta using radiocarbon and radio-sulfur. *Mus Norvegicus albinus* (*Rodentia*)
 - b. Development and growth of bones and teeth as shown by histochemical and histophysical methods. (*Vertebrata*)
- GRIGNON, G. — Lab. d'Histol., Dép. d'Embryol., Fac. de Méd., 31 Rue Lionnois, NANCY (Meurthe & Moselle), France
- a. Développement de l'hypophyse. (*Aves*)
 - b. Développement de l'organe sub-fornical. (*Mammalia*)
- GROBSTEIN, C. Ph.D., M.I.I.E. — Dept of Biol.,Sci., Stanford Univ., PALO ALTO, Cal., U.S.A.

Grobstein-Ham

- a. Tissue interaction and cellular relationships in relation to differentiation and morphogenesis. *Mus musculus (Rodentia)*
- GRODZIŃSKI, Z. Prof. — Zakład Anat. Porównawczej U. J. im. H. Hoyer, św. Anny 6, KRAKOW, Poland
- GROENENDIJK—HUIJBERS, Mrs M. M. M.D. — Dept of Anat., Univ. of Saskatchewan, SASKATOON, Canada
- a. Investigation of the development of the sexual apparatus by means of implantation and castration experiments. *Gallus domesticus (Aves)*
- GRUENWALD, P. M.D. — Laboratory, Margaret Hague Maternity Hospital, Clifton Place, JERSEY CITY 4, N.J., U.S.A.
- a. Systematic investigation of current cases of prenatal disease and malformation in autopsy material. *Homo sapiens (Primates)*
- b. Normal and abnormal expansion of the lungs in newborn infants (experimental inflation with various media). *Homo sapiens (Primates)*
- c. Pathology of the placenta and its correlation with the outcome of the pregnancy. *Homo sapiens (Primates)*
- GRÜNEBERG, H. Ph.D., M.D., D.Sc., F.R.S., F.I.I.E., Prof. — Dept of Genetics, Univ. Coll. London, Gower St, LONDON W.C. 1, England
- a. Developmental genetics of the axial and appendicular skeleton; effects of major genes; development and genetics of "patch", a semidominant spotting gene with teratological effects in the homozygote. *Mus musculus (Rodentia)*
- GRÜNTHAL, E. Dr, Prof. — Hirnanat. Inst. der Psychiatr. Univ. Klinik, Med. Fak., Waldau, BERN, Schweiz
(no embryological work in progress)
- GUARDABASSI, Miss A. Dr — Inst. of comp. Anat., Via Giovanni Giolitti 34, TORINO, Italy
(*Anura*)
- a. The endolymphatic sac in tadpoles treated with thiouracil. *Bufo vulgaris*
- GUGGENHEIM, P. A.B., M.D. — Dept of Anat., School of Med., The Creighton Univ., OMAHA, Nebraska, U.S.A.
- GUSTAFSON, T. Fil.Dr, M.I.I.E. — Wenner-Grens Inst. for exper. Biol., Norrtullsgatan 16, STOCKHOLM Va., Sweden
- a. Studies on the mechanism of gastrulation. (*Echinoidea*)
- b. Growth promoting substances and vitamins in embryonic material. (*Echinoidea*), *Xenopus spec. (Anura)*
- c. The effect of various antimetabolites on embryonic development. (*Echinoidea*) (in collaboration with S. HÖRSTADIUS)
- d. Enzyme adaptation in embryonic and adult cells studied by means of tissue culture technique.
- GUTH, L. A.B., M.D. — Section Devel. and Regen., Lab. of Neuroanat. Sci., NINDB, Nat. Inst. of Health, BETHESDA, Md, U.S.A.
- a. Neuronal specificity in the autonomic nervous system. (*Mammalia*)
- GUYÉNOT, E. Dr Med., Dr Sci. — Inst. de Zool. et Anat. comp., Univ. de Genève, Rue de Candolle, GENÈVE, Suisse
- GYLLENSTEN, L. J. W. Med.Dr — Dept of Histol., Karolinska Inst., Solnavägen 1, STOCKHOLM 60, Sweden
- a. Postnatal development of lymphatic system; endocrinological influences (thyroid, thymus). *Cavia cobaya (Rodentia)*
- b. Postnatal development of newborns in different oxygen concentrations, with special consideration to malformations of the eyes, lungs and cardiovascular system. *Mus musculus (Rodentia)*

- HAAN, R. L. De M.A., Ph.D. — Dept of Embryol., Carnegie Inst. of Washington, Wolfe and Madison Sts, BALTIMORE 5, Md, U.S.A.
- a. Study of the development of acetylcholine synthesizing mechanisms with relation to the onset of spontaneous contractions in the embryonic heart. *Gallus gallus* (*Aves*)
 - b. Cellular migration in the embryo during the time of fusion of the cardiac primordia, and the effects of drugs and altered ionic environments. *Gallus gallus* (*Aves*)
- HADORN, E. Dr Phil., F.I.I.E., Prof. — Zool.-vergl. Anat. Inst., Naturw. Fak., Univ. Zürich, Künstlergasse 16, ZÜRICH 6, Schweiz
- HAGELIN, L. O. Fil.mag. — Zootom. Inst., Univ. of Stockholm, 116 Drottninggatan, STOCKHOLM, Sweden
- HAGET, A. Dr ès Sci. — Lab. de Zool., Fac. des Sci. de Bordeaux, 40 Rue Lamartine, TALENCE, Gironde, France
- a. Analyse expérimentale de la morphogénèse embryonnaire de la tête. *Leptinotarsa spec.* (*Coleoptera*)
- HÄGGQVIST, G. Prof. — Embryol. Dept, Histol. Inst., Karolinska Inst., Solnavägen 1, STOCKHOLM 60, Sweden
- HAGSTRÖM, B. E. B.A. — Wenner-Grens Inst. for exper. Biol., Norrtullsgatan 16, STOCKHOLM Va., Sweden
- a. Physiology of fertilization. (*Echinodermata*)
- HAJRA, B. M.Sc. — Dept of Zool., Presidency Coll., College St, CALCUTTA 12, India
- a. Investigation of morphogenesis by cytochemical means. *Amoeba spec.* (*Protozoa*)
 - b. Effects of chemical transport in morphogenesis. *Amoeba spec.* (*Coelenterata*) (in collaboration with S. MOOKERJEE)
- HALE, L. J. Ph.D. — Dept of Zool., Univ. of Edinburgh, West Mains Rd, EDINBURGH 9, Scotland
- a. Morphogenetic features in asexual development. (*Hydrozoa*)
- HALL, E. K. Ph.D., D.Sc. — Dept of Anat., School of Med., Univ. of Louisville, 101 West Chestnut St, LOUISVILLE 2, Ky, U.S.A.
- a. Drug effects on embryonic hearts (atropine, nicotine, physostigmine). *Rattus norvegicus* (*Rodentia*)
- HALLIDAY, R. B.Sc., Ph.D. — Agr. Res. Council Unit of Embryol., Dept of Zool., Univ. of North Wales, BANGOR, Caernarvonshire, N. Wales
- a. Immunological relations of mother and young. (*Mammalia*)
- HAMA, T. M.A., D.Sc., Prof. — Biol. Lab., Keio Univ., YOKOHAMA, Hiyoshi, Japan
- a. Morphogenetical and chemical analysis of the organizer. *Triturus pyrrhogaster* (*Urodela*)
 - b. Studies on the influence of the pterins and their like upon development in various animals. (*Arthropoda*, *Pisces*, *Amphibia*, etc.)
 - c. Developmental and chemical studies of the chromatophores. (*Amphibia*, *Pisces*)
- HAMARD, Miss M. — Lab. d'Embryol. expér., Coll. de France, Place Marcelin Berthelot, PARIS Ve, France
- a. Morphologie comparée et morphogénèse. (*Ciliata*) (en collaboration avec E. FAURÉ-FREMIET)
- HAMBURGER, K. Dr phil. — Biol. Inst. of the Carlsberg Foundation, 16, Tagensvej, COPENHAGEN N, Denmark

Hamburger-Har

- a. Studies on the biochemistry and physiology of synchronized cell systems. *Tetrahymena pyriformis* (*Holotricha*, *Ciliata*) (in collaboration with P. PLESNER and E. ZEUTHEN)
- HAMBURGER, V. Ph.D., F.I.I.E., Prof. — Dept of Zool., Washington Univ., Lindell and Skinker Ave, ST LOUIS 5, Mo., U.S.A.
- a. Neuro-embryology. *Gallus domesticus* (*Aves*)
- HAMILTON, H. L. B.A., M.S., Ph.D., M.I.I.E., — Dept of Zool. and Entomol., Div. of Sci., Iowa State Coll., AMES, Iowa, U.S.A.
- a. Studies on the relation of enzyme systems to morphogenesis. *Gallus domesticus* (*Aves*)
- b. Factors influencing the differentiation of melanophores in tissue cultures. *Gallus domesticus* (*Aves*)
- HAMILTON, W. J. F.I.I.E., Prof. — Anat. Dept, Charing Cross Hosp. Med. School, 62 Chandos Place, LONDON W.C. 2, England
- a. Growth and atresia of the ovarian follicles. *Mustela putorius furo* L. (*Carnivora*) (in collaboration with R. J. HARRISON)
- b. Placentation and changes in reproductive tract. (*Cervidae*) (in collaboration with R. J. HARRISON)
- c. The development and structure of the placenta. *Homo*. (*Primates*) (in collaboration with J. D. BOYD, Cambridge)
- HAMMOND, W. S. Ph.D., Prof. — Dept of Anat., School of Med., State Univ. of New York, 766 Irving Ave, SYRACUSE 10, N.Y., U.S.A.
- a. Development of the autonomic nervous system. *Gallus domesticus* (*Aves*) (in collaboration with C. L. YNTEMA)
- b. Development of the visceral skeleton. *Gallus domesticus* (*Aves*) (in collaboration with C. L. YNTEMA)
- c. Origin of tongue musculature. *Gallus domesticus* (*Aves*)
- HAMPÉ, A. Lic. ès Sci. — Lab. d'Embryol. expér. du Coll. de France, et Lab. d'Embryol. et de Tératol. expér. du C.N.R.S., 11 Place Marcelin Berthelot, PARIS Ve, France
- Lab. de Zool. et d'Embryol. expér., Inst. de Zool. et de Biol. génér., 12 Rue de l'Université, STRASBOURG, France
- a. Etude de la régulation des ébauches des membres. *Gallus gallus* (*Aves*)
- b. Etude de la régulation du bourgeon de membre. *Anas spec.* (*Aves*)
- c. La différenciation sexuelle, par les méthodes de greffes, de castration, d'injections d'hormones et d'explantations. Différenciation normale et inversion sexuelle des gonades, des voies génitales et des caractères somatiques précoces. *Gallus spec.* and *Anas spec.* (*Aves*) (en collaboration avec Et. C. WOLFF, Mrs D. SCHEIB—PFLEGER, Miss B. SALZGEBER et G. STRUDEL)
- HANAOKA, K. I. D.Sc., Prof. — Dept of Biol., Fac. of Lib. Arts and Sci., Yamagata Univ., Koshirakawa-machi, YAMAGATA, Japan
- a. Neurosecretory hormones in relation to reproductive cycle. *Potamon dehaani* (*Decapoda*, *Crustacea*)
- b. Experimental studies of sex differentiation. *Rana temporaria*, *Rhacophorus schlegelii* (*Anura*), *Hynobius lichenatus*, *H. nigrescens*, *Triturus pyrrhogaster* (*Urodela*)
- HANSON, E. D. A.B., Ph.D. — Osborn Zool. Lab., Yale Univ., NEW HAVEN 11, Conn., U.S.A.
- a. Fate of UV damaged feeding organelles during fission and autogamy. *Paramecium spec.* (*Holotricha*, *Ciliophora*)

- b. Distribution of ribonucleic acid during fission and autogamy. *Paramecium* spec. (*Holotricha, Ciliophora*)
- c. The effect of anti-metabolites on the development of feeding organelles. *Paramecium* spec. (*Holotricha, Ciliophora*)
- HARA, K. B.Sc., M.Sc. — Hubrecht Lab., Intern. Embryol. Inst., Janskerkhof 2, UTRECHT, Holland
- HARDER, W. Dr rer.nat. — Inst. für Fischereibiologie der Univ. Hamburg, Holstenwall 24, HAMBURG 36, Deutschland
- a. Post-embryonale Entwicklung, insbesondere die Umwandlungen des Verdauungsapparates während der Metamorphose. Vergleichende Untersuchungen innerhalb zweier Familien. *Clupea harengus*, *C. sprattus*, *C. pilchardus* (*Clupeidae*), *Engraulis encrasicolus* (*Engraulidae, Teleostei*)
- HARKMARK, W. Dr med. — Anat. Inst., Univ. of Oslo, OSLO, Norway
- a. Olivocerebellar relationships during embryogenesis. *Mus rattus* (*Rodentia*)
- b. The histogenesis of the cerebellum with special emphasis on the Purkinje cells. *Gallus domesticus* (*Aves*)
- HARRIS, F. T. C. — Middlesex Hospital Medical School, LONDON W. 1, England
- a. Studies of cleavage processes.
- HARRIS, J. E. M.A., Ph.D., Prof. — Dept of Zool., The Univ., BRISTOL 8, England
- a. Development of the nervous system and behaviour pattern. *Scylliorhinus canicula*, *Petromyzon fluviatilis*, *Salmo* spp. (*Pisces*) (in collaboration with H. P. WHITING)
- HARRIS, M. Ph.D., A.B., Prof. — Dept of Zool., Univ. of Calif., BERKELEY 4, Cal., U.S.A.
- HARRISON, G. A. B.A., B.Sc. — Dept of Anat., Univ. of Liverpool, LIVERPOOL, England
- a. Growth and genetical selection at high temperatures. (*Mammalia*)
- b. The inheritance of skin colour. *Homo sapiens* (*Primates*)
- c. The genetics of obesity. *Mus* spec. (*Rodentia*)
- HARRISON, J. R. B.A., M.A., Ph.D. — Dept of Zool., Miami Univ., OXFORD, Ohio, U.S.A.
- a. In vitro studies on the growth and differentiation of the retinal pigment in the embryonic eye: analysis of developmental factors contained in the yolk-albumen of the egg. *Gallus domesticus* (*Aves*)
- b. Effect of lowered incubation temperature on the development and potencies of the blastoderm. *Gallus domesticus* (*Aves*)
- HARRISON, R. G. M.A., D.M. — Dept of Anat., Univ. of Liverpool, LIVERPOOL, England
- a. The dependence of spermatogenesis on the vascularization of the testis. (*Mammalia*)
- b. The effect of low temperature on spermatogenesis. (*Mammalia*)
- HARRISON, R. G. M.D., Ph.D., Sc.D., L.L.D., F.I.I.E., Prof. (Emer.) — Osborn Zool. Lab., Yale Univ., NEW HAVEN 11, Conn., U.S.A.
- a. Development of limbs with reference to the roles played by ectoderm and mesoderm. *Ambystoma* (various species) (*Urodela*)
- b. Induction and symmetry relations in the development of the internal ear. *Ambystoma punctatum* (*Urodela*)

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- HARRISON, R. J. M.A., D.Sc., M.D. — Anat. Dept, London Hosp. Med. Coll., Turner St, LONDON E. 1, England
- HARRISON MATTHEWS, L. D.Sc., F.R.S. — c/o The Zool. Soc. of London, England
- HART, D. S. M.A. — Canterbury Agric. Coll., Lincoln Coll., CANTERBURY, New Zealand
- HARTE, Miss C. Dr, Prof. — Inst. für Entwicklungsphysiologie, Univ. zu Köln, Gyrhofstr. 17, KÖLN-LINDENTHAL, Deutschland
- HARTUNG, E. W. Ph.D. — Dept of Zool., Univ. of Rhode Island, KINGSTON, R.I., U.S.A.
- Factors influencing tumor incidence. A study of the developmental, environmental and genetic factors operative in the development of so-called "melanin tumors". *Drosophila melanogaster* (Diptera)
 - Studies on symmetry. (Gastropoda)
 - Studies on tissue homotransplantation. (Amphibia)
- HARTWIG, H. Dr Phil. — Zool. Inst. der Univ. Köln, Kerpenerstr. 13, KÖLN-LINDENTHAL, Deutschland
- Wirkungsmechanismus von Schilddrüsenhormon.
- HARVEY, Mrs E. BROWNE A.B., M.A., Ph.D., Sc.D., F.I.I.E. — Dept of Biol., Princeton Univ., PRINCETON, N.J., U.S.A.
- Centrifuging eggs, and development of fractions obtained by centrifugal force. Parthenogenetic merogony or development without nuclei. (*Echinoidea*)
 - Book, including classified compilation of all experimental work. *Arbacia punctulata* (*Echinoidea*)
 - Moving pictures of metamorphosis and of the natural history (in color). *Arbacia punctulata* (*Echinoidea*)
 - Determination of sex by electrical method. *Arbacia punctulata* (*Echinoidea*)
 - Prophase of the egg. *Arbacia punctulata* (*Echinoidea*)
 - Study of a crescent-shaped figure in the egg. *Arbacia punctulata* (*Echinoidea*)
 - Effect of "theelin" on the egg. *Arbacia punctulata* (*Echinoidea*)
- HARVEY, E. B. B.S., M.A., Ph.D. — Dept of Zool., Univ. of Calif., DAVIS, Cal., U.S.A.
- HASSA, O. Dr Veter.Sc. — Inst. of Histol. and Embryol., Veter. Coll. of the Univ., ANKARA, Turkey
(no embryological work in progress)
- HAY, Miss D. Lic.ès Sci. — Lab. de Zool. et d'Embryol. expér., Inst. de Zool. et de Biol. génér., 12 Rue de l'Université, STRASBOURG, France
- Analyse du processus de régulation et de paragénèse. (*Selachii*) (en collaboration avec J. H. VIVIEN et J. SCHOTT)
- HAYASHI, Y. M.A. — Biol. Inst., Fac. of Sci., Nagoya Univ., Chigusa-Ku, NAGOYA, Japan
— (temporarily: Lab. of Chem. Embryol., Med. Center, Colorado Univ., 4200 East Ninth Ave, DENVER 20, Col., U.S.A.)
- Biochemical analysis of muscle differentiation. *Gallus spec.* (*Aves*)
- HAYEK, H. Dr med., Dr phil., o.Prof. — Anat. Inst., Währingerstr. 13, WIEN 9, Oesterreich
- HEATH, H. D. Ph.D. — Dept of Biol. Sci., Stanford Univ., STANFORD, Cal., U.S.A.

- HECKERMAN, R. O. B.S., M.S., Ph.D. — Dept of Biol. (Embryol. Division), Duquesne Univ, PITTSBURGH 19, Pa, U.S.A.
- Differentiation of cells in the islet tissue of the embryonic pancreas. *Gallus domesticus* (*Aves*), *Sus domesticus* (*Mammalia*)
 - Islet tissue regeneration. *Gallus domesticus* (*Aves*)
- HEILBRUNN, L. V. Ph.D., Prof. — Dept of Zool., Univ. of Pennsylvania, PHILADELPHIA 4, Pa, U.S.A.
- HEIM, W. G. A.B., M.A., Ph.D. — Dept of Biol., Wayne State Univ., DETROIT 2, Mich., U.S.A.
- Role of catalase in growth and neoplasia. *Mus musculus*, *Mus rattus* (*Rodentia*)
- HEMMINGS, W. A. B.A. — Agr. Res. Council Unit of Embryol., Dept of Zool., Univ. Coll. of North Wales, BANGOR, Caernarvonshire, N. Wales
- Immunological relations of mother and fetus. (*Mammalia*)
- HENLEY, Miss C. M.A., Ph.D. — Dept of Zool., Univ. of North Carolina, CHAPEL HILL, N.C., U.S.A.
- HENZEN, W. — Zool. Inst. der Univ. Bern, Sahlistr. 8, BERN, Schweiz
- HERLANT—MEEWIS, Mrs H. Dr Zool. — Lab. de Zool., Fac. des Sci., Inst. Zool. Torley-Rousseau, Univ. libre de Bruxelles, 50 Avenue F. D. Roosevelt, BRUXELLES, Belgique.
- HERRMANN, H. Dr, Prof. — Div. Chem. Embryol., Med. Center, Univ. of Colorado, 4200 East Ninth Ave, DENVER 20, Colo, U.S.A.
- Chemistry of muscle differentiation. *Gallus spec.* (*Aves*) in collaboration with I. R. KONIGSBERG and A. J. SAMUELS)
 - Study of developmental disturbances related to nutritional deficiencies investigated by application of anti-vitamins and anti-amino acids to the intact egg and to explants (somites). (*Aves*) (in collaboration with Mrs U. ROTHFELS KONIGSBERG)
 - Analysis of muscle tissue grown *in vitro*. *Homo sapiens* (*Primates*) (in collaboration with Mrs U. ROTHFELS KONIGSBERG)
- HERTIG, A. T. B.S., M.D., Prof. — Dept of Pathol., Harvard Univ., Med. School, 25 Shattuck St, BOSTON 15, Mass., U.S.A.
- Boston Lying-in Hospital, 221 Longwood Ave, BOSTON 15, Mass. — Free Hospital for Women, 245 Pond Ave, BROOKLINE, Mass.
- Histochemical observations on early fertilized ova of less than 14 days age. *Homo* (*Primates*) (in collaboration with J. ROCK, W. J. MULLIGAN and Miss E. C. ADAMS)
 - Histochemical studies on developing embryos. *Homo* (*Primates*) (in collaboration with D. G. McKAY and Miss E. C. ADAMS)
 - Histochemical studies on abnormal trophoblast with special reference to hydatidiform mole and chorionepithelioma. *Homo* (*Primates*) (in collaboration with D. G. McKAY, K. BENIRSCHKE, W. BARDAWIL and Miss E. C. ADAMS)
- HESS, O. Dr rer.nat. — Zool. Inst. der Technischen Hochschule, DARMSTADT, Deutschland
- Entwicklungsphysiologie. *Bithynia tentaculata*, *Limnaea stagnalis* (*Gastropoda*)
- HEUSER, C. H. F.I.I.E., Prof. — Dept of Micr. Anat., Med. Coll. of Georgia, AUGUSTA, Ga, U.S.A.

Hic-Hor

- HICKS, S. P. B.A., M.D. — Lab. of Pathol., New England Deaconess Hosp. & Harvard Med. School, 195 Pilgrim Road, BOSTON 15, Mass., U.S.A.
- Ionizing radiation as an extirpative tool in experimental mammalian embryology. *Rattus spec.*, *Mus spec.* (*Rodentia*)
- HIGHNAM, K. C. M.Sc., Ph.D. — Dept of Zool., Univ. of Sheffield, SHEFFIELD, England
- Influence of hormones on metamorphosis and pupal diapause. (*Lepidoptera*)
- HILLEMANN, H. H. B.S., M.A., Ph.D. — Dept of Zool., Oregon State Coll., CORVALLIS, Ore., U.S.A.
- HINRICHSEN, K. Dr Med. — Anat. Inst. der Univ., Burgstrasse 51, GÖTTINGEN, Deutschland
- Histochemie von Entwicklungsprozessen, spez. Ribonucleinsäure (Extremitätenentwicklung, Zahnentwicklung). *Mus musculus* (*Rodentia*)
- HINTZSCHE, E. Dr Med., Prof.ord. — Anat. Inst., Bühlstr. 26, BERN, Schweiz
- Anorganischer Stoffwechsel. Fermentchemische Untersuchungen. *Homo sapiens* and other spp. (*Mammalia*)
 - Experimentelle Studien über Zellvermehrung in Gewebekulturen. Einwirkung fördernder und hemmender Substanzen. *Homo sapiens* (*Primates*)
 - Wirkung der Röntgen- und Betatronbestrahlung auf Gewebekulturen. *Mus spec.*, *Homo sapiens* (*Mammalia*)
- HIRAIWA, Y. K. D.Sc. — Lab. of Zool., Fac. of Agric., Kyushu Univ., FUKUOKA, Japan
- HIRAMOTO, Y. B.Sc., M.A. — Misaki Marine Biol. Station, MISAKI, Kanagawa-ken, Japan
- Cell division. *Mespilia spec.*, *Pseudocentrotus spec.*, *Hemicentrotus spec.*, *Clypeaster spec.* (*Echinoidea*)
 - Physical properties of marine eggs. *Mespilia spec.*, *Hemicentrotus spec.*, *Clypeaster spec.* (*Echinoidea*)
- HIRATA, A. A. A.B., M.A. — Dept of Zool., Univ. of Calif., LOS ANGELES 24, Cal., U.S.A.
- HISHIDA, T. M.A. — Biol. Inst., Fac. of Sci., Nagoya Univ., Chigusa-Ku, NAGOYA, Japan
- Metabolic analysis of early development. *Oryzias latipes* (*Teleostei*) (in collaboration with E. NAKANO)
 - Melanin formation in color phenotypes. *Oryzias latipes* (*Teleostei*) (in collaboration with T. YAMAMOTO and H. TOMITA)
 - Xanthophores and xanthophyll deposition in color phenotypes. *Oryzias latipes* (*Teleostei*)
- HJELMMAN, G. Prof. — Anat. Inst., Univ. of Helsinki, HELSINKI, Finland
(no embryological work in progress)
- HOADLEY, L. F.I.I.E., Prof. — Biol. Lab., Harvard Univ., Divinity Ave. CAMBRIDGE 38, Mass., U.S.A.
- HOEK, J. v. d. M.V. Sc. — Veter. Anat. and Embryol. Inst., Bekkerstr. 141, UTRECHT, Holland
- HOESSELS, Miss E. L. M. J. Ph.D. — Veter. Anat. and Embryol. Inst., UTRECHT, Holland

- a. Photographical series of normal development. *Gallus domesticus* (*Aves*)
 - b. Photographical series of organ development. Domestic animals (*Mammalia*)
 - c. Cholinesterase determinations in embryos. Domestic animals (*Mammalia*)
- HOFF-JÖRGENSEN, E. Dr Phil. — Inst. of Biochem., Fac. of Med., Univ. of Copenhagen, Juliane Mariesvej 30, COPENHAGEN Ø, Denmark
- HOGUE, A. — Instituto Butantan, SÃO PAULO, Brasil
- a. Intersexuality. *Bothrops insularis* Amand (*Ophilia*) (in collaboration with H. BELLVOMINI and G. SCHREIBER, Belo Horizonte)
- HOGUE, Miss M. J. A.B., Ph.D., Assoc. Prof. (Em.) — Dept of Anat., School of Med., Univ. of Pennsylvania, PHILADELPHIA 4, Pa, U.S.A.
- HOLLANDER, W. F. B.A., M.S., Ph.D. — Dept of Genetics, Iowa State Coll., AMES, Iowa, U.S.A.
- a. Genetic mutants — polydactylism, lethal types. *Mus musculus* (*Rodentia*)
 - b. X-ray induced dominant lethal effects. *Mus musculus* (*Rodentia*)
 - c. X-ray induced chromosome-translocation effects. *Mus musculus* (*Rodentia*)
 - d. Genetic mutants. *Columba livia* (*Aves*)
- HOLM, K. Å. Fil.Dr — Zool. Inst., Uppsala Univ., UPPSALA, Sweden
- a. Experimental investigation of the embryo (determination, prospective significance of embryonic areas). (*Araneae*, *Arachnoidea*)
- †HOLMDAHL, D. E. Med.Dr, F.I.I.E., Prof. (Emer.) — Anat. Inst., Uppsala Univ., UPPSALA, Sweden
(deceased)
- HOLST CHRISTENSEN, P. J. Dr Phil. — Inst. for Alm. Zool., Universitetsparken 3, COPENHAGEN Ø, Denmark
- a. Continued investigations on embryology. (*Insecta*)
 - b. Studies on larval hair development. (*Lepidoptera*)
 - c. Studies on the development of the lungs. (*Mammalia*)
- HOLTER, H. Ph.D., M.I.I.E. — Physiol. Dept, Carlsberg Lab., 10 Gl. Carlsbergvej, COPENHAGEN, Valby, Denmark
(no embryological work in progress)
- HOLTFRETER, J. K. F. Ph.D., F.I.I.E., Prof. — Dept of Biol., Coll. of Arts and Sci., Univ. of Rochester, ROCHESTER 20, N.Y., U.S.A.
- a. Studies on the diffusibility and toxicity of inductive agents. (*Urodela*)
 - b. Stimuli initiating both neurogenesis and carcinogenesis. (*Amphibia*)
- HOLTZER, H. Ph.D. — Dept of Anat., School of Med., Univ. of Pennsylvania, PHILADELPHIA 4, Pa, U.S.A.
- HOLYOKE, E. A. Ph.D. — Dept of Anat., Coll. of Med., Univ. of Nebraska, OMAHA 5, Nebraska, U.S.A.
- HOOKER, D. Ph.D., Sc.D. (Hon.), M.I.I.E., Prof. Emer. — 110 Livingston St, NEW HAVEN 11, Conn., U.S.A.
— Osborn Zool. Lab., Yale Univ., NEW HAVEN 11, Conn., U.S.A.
- a. Study of the physiological responses of fetuses. *Homo sapiens* (*Primates*)
 - b. Study of the reactivity of the fetus to exteroceptive stimulation. *Homo sapiens* (*Primates*)
 - c. Responses of fetuses to double simultaneous stimulation. *Homo sapiens* (*Primates*) (in collaboration with Miss T. HUMPHREY)
- HORI, R. M.Sc. — Biol. Inst., Fac. of Lib. Arts, Toyama Univ., TOYAMA, Japan

- a. Electrical phenomena accompanying fertilization. *Hemicentrotus pulcherrimus*, *Pseudocentrotus depressus* (*Echinoidea*), *Oryzias latipes* (*Teleostei*)
- HORN, E. C. B.S., A.M., Ph.D., Prof. — Dept of Zool., Duke Univ., DURHAM, N.C., U.S.A.
- a. Qualitative and quantitative analysis of nucleoprotein during development. *Gallus gallus* (*Aves*)
- b. Effects of nucleoprotein on embryonic development. *Gallus gallus* (*Aves*)
- HÖRSTADIUS, S. Fil.Dr. F.I.I.E., Prof. — Zool. Inst., Uppsala Univ., UPPSALA, Sweden
- a. Determination in the egg: Analysis of the gradients and the processes behind them. (*Echinoidea*)
- b. Determination within the head. *Ambystoma spec.* (*Urodela*)
- c. The effect of various antimetabolites on embryonic development. (*Echinoidea*) (in collaboration with T. GUSTAFSON)
- HORSTMANN, E. Dr Med. et Phil., Prof. — Anat. Inst. der Univ. Kiel, Neue Univ., Haus 30, KIEL, Deutschland
- a. Embryology of neuroglia. (*Vertebrata*)
- HUBER, W. D.Sc. — Muséum d'Histoire Naturelle, BERNE, Suisse
- a. Développement de la tête. Etude morphologique et expérimentale de la forme encéphalique en rapport avec le crâne; courbures et redressement de la tête embryonnaire; position des yeux; analyse des races à forme encéphalique aberrante. *Gallus domesticus* (*Aves*), *Canis familiaris* (*Carnivora*)
- HUBL, H. Dr rer.nat. — Zool. Inst. der Univ., Naturw. Fak., Röntgenring 10, WÜRZBURG, Deutschland
- a. Untersuchungen über die neurosekretorischen Zellen im Gehirn und deren Einfluss auf die Regeneration. (*Lumbricidae*, *Oligochaeta*)
- b. Weitere Untersuchungen über die Beziehungen zwischen Nervensystem und Regeneration. (*Lumbricidae*, *Oligochaeta*)
- HUBLÉ, J. Dr Zool.Sci. — Lab. voor Zool., Afd. Morphol., Universiteitsstraat 14, GENT, België
- a. Experimental embryology. (*Aves*)
- HUGHES, A. F. W. M.A., Ph.D., Sc.D. — Anat. School, Univ. of Cambridge, CAMBRIDGE, England
- HUGHES—GLASTONE, Mrs S. F.D.S. — Anat. School, Univ. of Cambridge, CAMBRIDGE, England
- HULTIN, J. M. T. Ph.D., M.I.I.E. — Wenner-Grens Inst. for exper. Biol., Norrtullsgatan 16, STOCKHOLM Va., Sweden
- a. Nucleotide and carbohydrate metabolism of embryos in connection with determination. (*Echinoidea*)
- HUMMEL, Miss K. P. Ph.D. — Roscoe B. Jackson Memorial Lab., BAR HARBOR, Me, U.S.A.
- a. Studies on histogenesis of anomalies resulting from the gene "disorganization". *Mus musculus* (*Rodentia*)
- b. Studies on the development of situs viscerum inversus resulting from a recessive gene. *Mus musculus* (*Rodentia*)
- HUMPHREY, R. R. A.M., Ph.D., F.I.I.E., Prof. — Dept of Zool., Indiana Univ., BLOOMINGTON, Ind., U.S.A.

- HUMPHREY, Miss T. M.D., Ph.D., M.I.I.E. — Dept of Anat., School of Med., Univ. of Pittsburgh, PITTSBURGH 13, Pa, U.S.A.
- Continuation of studies on the trigeminal nerve in fetuses. Morphological study based on serially sectioned, pyridine silver impregnated embryos. Correlation of the anatomical findings on embryos with neurological observations and neurosurgical procedures. *Homo sapiens (Primates)*
 - Pancreatic developmental studies. *Homo sapiens (Primates)*
 - Responses of fetuses to double simultaneous stimulation. *Homo sapiens (Primates)* (in collaboration with D. HOOKER)
- HUMPHRIES, A. A., Jr. Ph.D. — Dept of Biol., Emory Univ., ATLANTA, Ga, U.S.A.
- Natural inhibition of meiosis in unfertilized amphibian oocytes. *Triturus viridescens (Urodela)*
 - Developmental genetics. *Triturus viridescens (Urodela)*
- HUNT, E. L. Ph.D., Prof. — Dept of Biol., Emory Univ., ATLANTA, Ga, U.S.A.
- Studies on the distribution of radio-iodine. (*Amphibia*)
 - Studies on the estrus cycle and gestation in alloxan-diabetic animals. *Rattus norvegicus (Rodentia)*
- HUYGNARD, C. Dr en Méd., Dr ès Sci. — Lab. d'Embryol., Fac. de Méd., Rue des Sts Pères, PARIS VIe, France.
- Greffes intraoculaires de membres. *Mus rattus (Rodentia)*
 - Désensibilisation à la greffe. *Mus rattus (Rodentia)*
- HYDÉN, H. M.D. — Dept of Histol., Fac. of Med., Univ. of Gothenburg, 4:de Långgatan 7, GÖTEBORG C, Sweden
- HYLBOM, J. R. Fillic. — Zootom. Inst., Univ. of Stockholm, 70A Råd-mansgatan, STOCKHOLM, Sweden
- Development of larvae, including metamorphosis. *Pilidium spec. (Nemer-tini, Plathelminthes)*
- ICHIKAWA, A. M.Sc., D.Sc., Prof. — Dept of Zool., Fac. of Sci., Hokkaido Univ., North 8, West 5, SAPPORO, Japan
- Development and life-history of Japanese forms. (*Rhizocephala, Crus-tacea*)
- ICHIKAWA, M. Ph.D., Prof. — Lab. of Embryol. and Exper. Morphol., Zool. Inst., Dept of Sci., Kyoto Univ., KYOTO, Japan
- Hormonal mechanism of metamorphosis. *Philosamia cynthia ricini, Bom-byx mori, Luehdorfia japonica (Lepidoptera)* (in collaboration with Mrs J. NISHIITSUTSUJI—UWO)
- IGNATJEVA, Mrs G. M. Cand. Biol. Sci. — Inst. of Animal Morphol. of the Acad. of Sci. of the U.S.S.R., Bolshaja Kalushskaja 33, MOSCOW V-71, U.S.S.R.
- The hatching enzyme and the conditions of hatching. *Huso huso, Acipenser güldenstädti, A. stellatus (Acipenseriformes, Chondrostei)*
- IKUSHIMA, N. — Lab. of Embryol. and Exper. Morphol., Zool. Inst., Dept of Sci., Kyoto Univ., KYOTO, Japan
- Mechanism of the morphogenetic movement in the embryo. *Triturus pyr-rhogaster, Hynobius nebulosus (Urodela)*
- IMAZUMI, T. — Zool. Inst., Fac. of Sci., Univ. of Kyoto, KYOTO, Japan
- IMMERS, J. Ph.lic. — Wenner-Grens Inst. for exper. Biol., Norr tullsgatan 16, STOCKHOLM Va., Sweden
- Carbohydrates in embryonic development. (*Echinoidea*)

1. Changes in the contents of polysaccharide esterial sulphate. *Paracentrotus lividus*
 2. Metabolism of monosaccharides (galactose, glucose, mannose, glucosamine, etc.). *Arbacia lixula*, *Echinus esculentus*, *Paracentrotus lividus*, etc.
 3. Biochemistry of fertilization membrane. *Echinus esculentus*, *Paracentrotus lividus*, *Strongylocentrotus droebachiensis*, etc.
- INCE, Miss F. E. M.Sc. — Dept of Zool., Bedford Coll., Regent's Park, LONDON N.W. 1, England
- a. Development. *Arion* spec. (*Pulmonata*, *Gastropoda*)
- INGEN, Miss H. C. van M.B. — Anat.-Embryol. Lab. of the Univ., Fac. of Med., Wassenaarseweg, Boerhaavekwartier, LEIDEN, Holland
- a. Heart and vessels in congenital malformations. *Homo sapiens* (*Primates*) (in collaboration with H. A. SNELLEN, J. DANKMEIJER and Miss A. DEKKER)
 - b. Ductus arteriosus before and after birth. *Mus norvegicus albinus* (*Rodentia*), *Homo sapiens* (*Primates*)
- INOUE, Miss K. Dr — Dept of Pathol., School of Med., Univ. of Kanazawa, KANAZAWA, Japan
- a. Immunochemical analysis of the early embryonic development (in collaboration with T. ISHIKAWA).
 - b. Induced enzymatic systems of the early embryonic development (in collaboration with T. ISHIKAWA).
- ISHIDA, J. Dr Sci. — Zool. Inst., Fac. of Sci., Tokyo Univ., TOKYO, Japan
- a. Phosphorus metabolism in eggs. *Oryzias* spec. (*Teleostei*)
- ISHIKAWA, M. M.A. — Marine Biol. Station, Nagoya Univ., Sugashimacho, TOBA, Mie-ken, Japan
- a. Physiological studies on fertilization and artificial parthenogenesis. *Hemicentrotus pulcherrimus*, *Pseudocentrotus depressus* (*Echinoidea*) (in collaboration with M. SUGIYAMA)
- ISHIKAWA, T. Dr — Dept of Pathol., School of Med., Univ. of Kanazawa, KANAZAWA, Japan
- a. Immunochemical analysis of the early embryonic development (in collaboration with Miss K. INOUE).
 - b. Induced enzymatic systems of the early embryonic development (in collaboration with Miss K. INOUE).
- ISINGS, J. M.Sc. — Central Lab. T.N.O., Julianalaan 134, DELFT, Holland
- a. Development of silk gland. *Bombyx mori*, *Tineola biselliella* (*Lepidoptera*)
 - b. Development of hair (with the aid of radio-autography). *Mus musculus* (*Rodentia*)
- ISLAM, A. Ph.D. — Dept of Zool., Government Coll., LAHORE, Pakistan
- a. Experiments on regional determination. *Gallus domesticus* (*Aves*)
 - b. The early embryology. *Bufo melanostictus*, *Rana tigrina* (*Anura*)
- ITO, S. — Dept of Biol., Fac. of Sci., Kumamoto Univ., KUMAMOTO-Shi, Japan
- a. Studies on activation. *Oryzias latipes*, *Plecoglossus altivelis* (*Teleostei*)
 - b. Permeability of the egg at the time of fertilization. *Oryzias latipes*, *Plecoglossus altivelis* (*Teleostei*)

- c. Effect of outer medium upon the cortical change. *Oryzias latipes*, *Plecoglossus altivelis* (*Teleostei*)
- ITO, T. Dr Agr. — Sericult. Exper. Stat., Koenji, Suginami-ku, TOKYO, Japan
- a. Respiratory metabolism during metamorphosis. *Bombyx mori* (*Lepidoptera*)
- b. Histology and cytology of the integument. *Bombyx mori* (*Lepidoptera*)
- c. Glycolytic metabolism during metamorphosis. *Bombyx mori* (*Lepidoptera*)
- IWASAWA, H. M.Sc. — Biol. Inst., Fac. of Sci., Niigata Univ., NIIGATA, Japan
- a. Embryological study on endocrine correlation. (*Anura*)
- b. Mechanism of thiourea-induced sex-reversal. (*Anura*)
- JACOBSON, A. A.B. — Dept of Biol. Sci., Stanford Univ., STANFORD, Cal., U.S.A.
- JACOBSON, D. C.-O. Fil.mag. — Zool. Inst., Uppsala Univ., UPPSALA, Sweden
- a. Determination of the central nervous system. *Ambystoma spec.* (*Urodela*) U.S.A.
- JAFFE, L. F. B.S., Ph.D. — Brandeis Univ., WALTHAM 54, Mass.
- a. Development of polarity of egg; studied by analyzing effects of polarized illumination and of near-by eggs. *Fucus furcatus* (*Fucales*, *Algae*)
- JAFFEE, O. C. B.A., M.S., Ph.D. — Dept of Anat., School of Med., Univ. of Arkansas, LITTLE ROCK, Arkansas, U.S.A.
- (no embryological work in progress)
- JAGER, B. de M.Sc. — Division of Fisheries, Beach Road, Sea Point, CAPE TOWN, South Africa
- a. Embryology. *Trachurus trachurus* Linn. (*Percomorphi*, *Neopterygii*)
- JÄGERSTEN, K. G. M. Fil.Dr, Prof. — Zool. Inst., Uppsala Univ., UPPSALA, Sweden
- a. Larval development. (*Progonophora*)
- JANSEN, J. M.D. — Anat. Inst., Univ. of Oslo, OSLO, Norway
- (no embryological work in progress)
- JANSEN, J. G. O. B.Sc. — Hubrecht Lab., Intern. Embryol. Inst., Janskerkhof 2, UTRECHT, Holland
- a. Analysis of time relationships in competence of ectoderm for activating and transforming influences. *Ambystoma mexicanum* (*Urodela*)
- JAYA, Miss Y. M.B., B.S. — Dept of Anat., Med. Coll., Osmania Univ., HYDERABAD, India
- a. The development of the vascular supply of muscle. (*Mammalia*)
- JIT, I. M.B., M.S., Ph.D. — Dept of Anat., Med. Coll. Amritsar, AMRITSAR, Punjab, India
- a. Histogenesis of vermiform appendix. *Homo sapiens* (*Primates*)
- b. Development of the ileo-colic valve and its frenula. *Homo sapiens* (*Primates*)
- c. Development of the splanchnic nerves. *Homo sapiens* (*Primates*)
- d. Prenatal ossification of some bones. *Homo sapiens* (*Primates*)
- e. Development of the transverse folds of the rectum. *Homo sapiens* (*Primates*)
- JOCHEMS, D. J. Anat.-Embryol. Inst., Municipal Univ. of Amsterdam, Mauritskade 61, AMSTERDAM O, Holland

Jochems-Kam

- a. Attempts to analyze the differences in regenerative capacity between Amphibia and Mammalia. *Ambystoma mexicanum* (Urodela), *Mus* spec. (Rodentia) (in collaboration with H. A. L. TRAMPUSCH)
- JOHNELS, A. G. Phil.Dr — Zootom. Inst., Univ. of Stockholm, Rådmanngatan 70A, STOCKHOLM, Sweden
- a. Development and morphology of the autonomic nervous system. (Lower Vertebrata)
- JOHNEN, Miss A. G. Dr Phil. — Zool. Inst. der Univ. Köln, Kerpenerstr. 13, KÖLN-LINDENTHAL, Deutschland
- a. Die Wirkungsspezifität abnormer Induktoren in der Entwicklung. (*Amphibia*)
- b. Die Bedeutung des Zeitfaktors beim Induktionsvorgang. *Ambystoma* spec., *Triturus* spec. (Urodela)
- JOHNSON, B. H. — Dept of Zool., Indiana Univ., BLOOMINGTON, Ind., U.S.A.
- JOHNSON, D. C. B.S., M.S., Ph.D. — Dept of Zool., State Univ. of Iowa, IOWA CITY, Iowa, U.S.A.
- a. Physiology of reproduction: hypophyseal-gonadal interrelationships by the use of parabiosis.
- JOHNSON, F. R. M.D., B.Ch., B.A.O. — Dept of Anat., Fac. of Med., Univ. of Sheffield, SHEFFIELD, England
- a. Histochemical studies of various tissues. (*Mammalia*)
- b. Epithelial regeneration in various organs. (*Mammalia*)
- JOHNSON, G. Lic.ès Sci. — Lab. de Zool., Fac. des Sci., POITIERS, Vienne, France
- a. Hermaphroditism. (*Rhyscotidae*, *Isopoda*, *Crustacea*)
- JONES, B. M. D.Sc. — Dept of Zool., Univ. of Edinburgh, West Mains Rd, EDINBURGH 9, Scotland
- a. Embryonic endocrinology. *Locustana pardalina*, *Locustana migratoria* (*Orthoptera*)
- b. Surface chemical properties of extra-embryonic fluid. *Locusta migratoria* (*Orthoptera*), *Gallus gallus* (*Aves*)
- JONES, O. P. Ph.D., M.D. — Dept of Anat., Univ. of Buffalo Med. School, 3435 Main St, BUFFALO 14, N.Y., U.S.A.
- a. Embryonic blood cells in the yolk sac. *Rattus* spec. (*Rodentia*)
- JONES, W. E. B.Sc. — Marine Biol. Stat., Univ. Coll. of North Wales, MENAI BRIDGE, Anglesey, N. Wales
- a. Spore division and early development of thallus. (*Rhodophyceae*; *Gigartinales*)
- JOST, A. D. Dr Sc., M.I.I.E., Prof. — Lab. de Physiol. comp., Fac. des Sci., Univ. de Paris, 12 Rue Cuvier, PARIS Ve, France
- a. Endocrinologie foetale. *Rattus norvegicus* (*Rodentia*), *Oryctolagus cuniculus* (*Lagomorpha*)
- b. Différenciation sexuelle. *Rattus norvegicus* (*Rodentia*), *Oryctolagus cuniculus* (*Lagomorpha*)
- c. Anomalies héréditaires ou expérimentales des extrémités (acroblapsie). *Mus musculus*, *Rattus norvegicus* (*Rodentia*), *Oryctolagus cuniculus* (*Lagomorpha*)
- JOUBERT, D. M. M.Sc., Ph.D. — Dept of Animal Husbandry, Univ. of Pretoria, PRETORIA, South Africa
(no embryological work in progress)

- JURA, Cz. D.Sc. — Zool. Dept of the Jagiellonian Univ., St Anne 6, KRAKOW, Poland
- Experimental studies on development. *Melasoma populi* L. (Coleoptera)
 - Histochemical studies on development. *Melasoma populi* L. (Coleoptera) (in collaboration with Miss A. KRZYSTOFOWICZ and Miss B. WĘGLARSKA)
 - Development of the digestive system. *Phyllobius glaucus* Scop. (Curculionidae, Coleoptera)
- JURAND, A. Dr Biol. — Biol. and Embryol. Inst., Med. Academy, KRAKOW, Poland
- The influence of drugs of the nervous system on regeneration (sodium bromide; coffeine). *Xenopus laevis* Daud. (Anura)
 - The phenomenon of neoteny. *Xenopus laevis* Daud. (Anura)
 - Action of triethanomelamine (T.E.M.) on early stages. *Mus musculus* (Rodentia)
- KAJI, S. — Biol. Lab., Dept of Sci., Kōnan Univ., KOBE, Japan
- Chemical influence upon the facet-forming faculty of the Bar eye. *Drosophila* spec. (Diptera)
- KAJISHIMA, T. M.A. — Biol. Inst., Fac. of Sci., Nagoya Univ., Chigusa-Ku, NAGOYA, Japan
- Experimental analysis of the development of genetical characters. *Carassius auratus* (L) (Teleostei)
- KÄLIN, J. Prof. — Zool.-vergl.anat. Inst. der Univ., FREIBURG, Schweiz
- Morphogenese des Schädels mit besonderer Berücksichtigung des allometrischen Wachstums. (Primates)
 - Der Ossifikationsmodus und seine experimentelle Beeinflussung. *Xenopus laevis* (Anura)
- KÄLLÉN, A. J. B. — Tornblad-Inst. for comp. Embryol., Biskopsgatan 7, LUND, Sweden
- Regulation of mitotic rate in developing neural tube. *Xenopus laevis* (Anura)
 - Differentiation capacity of neural tube cells in vitro. *Gallus domesticus* (Aves)
- KALTENBACH, Mrs J. C. B.S., M.A., Ph.D. — Dept of Biol. Sci., Northwestern Univ., EVANSTON, Ill., U.S.A.
- Serological study of proteins during early development. *Paracentrotus lividus* (Echinodermata) (in collaboration with H. P. PERLMANN, Stockholm Va., Sweden)
 - Direct, local metamorphic effects by thyroxine and thyroxine analogues. *Rana pipiens* (Anura)
 - Serological study of proteins during metamorphosis. *Rana pipiens* (Anura)
- KAMEL, A. B.Sc., M.Sc., Ph.D. — Fac. of Sci., Ain Shams Univ., Abassia, CAIRO, Egypt
- The study of early developmental stages. (Anura; Squamata; Reptilia)
 - The study of early developmental stages with special reference to the skeletal system. *Gambusia affinis*, *Tilapia nilotica* (Teleostei)
- KAMER, J. C. van de Dr Sc. — Zool. Lab. der Rijks Univ., Janskerkhof 3, UTRECHT, Holland
- Normal development and cytology of the pineal region. *Anoptichthys Jordanii* (Pisces)

Kan-Kie

- KANAGASUNTHERAM, R. M.B.B.S., Ph.D. — Dept of Anat., Fac. of Med., Univ. of Ceylon, Kynsey Rd, COLOMBO 8, Ceylon
- KANATANI, H. B.Sc., M.A. — Misaki Marine Biol. Station, MISAKI, Kanagawa-ken, Japan
- Regeneration. *Dugesia goonocephala* (Tricladidea, Turbellaria)
 - Mechanism of gastrulation. (*Echinoidea*)
- KANE, R. E. S.B., Ph.D. — Dept of Biophysics, The Johns Hopkins Univ., Charles and 34th Sts. BALTIMORE 18, Md, U.S.A.
- Physical and chemical studies on the proteins of the egg, with particular relation to cell division. *Arbacia punctulata*, *Strongylocentrotus purpuratus* (*Echinoidea*)
- KANO, Y. D.Sc. — Dept of Zool., Fac. of Sci., Hokkaido Univ., North 8, West 5, SAPPORO, Japan
- Electronmicroscope observation of spermatozoa and fertilization process. (*Cyclostomata*)
 - Sperm activation at the time of fertilization. *Clupea pallasii* (*Teleostei*)
 - Cytochemical investigations on development. (*Teleostei*) (in collaboration with T. S. YAMAMOTO)
- KARASAKI, S. B.Sc., M.A. — Biol. Inst., Fac. of Sci., Nagoya Univ., Chigusa-Ku, NAGOYA, Japan
- Electronmicroscopic study of elaboration of the cell structures during the early phase of differentiation. *Triturus pyrrhogaster* (*Urodela*) (in collaboration with T. YAMADA)
 - Ultrastructure of yolk platelets studied by electronmicroscopy and electron diffraction. *Triturus pyrrhogaster* (*Urodela*)
- KARCZMAR, A. G. Ph.D. — Stritch School of Med., Univ. of Loyola, 706 South Wolcott Ave, CHICAGO 12, Ill., U.S.A.
(no embryological work in progress)
- KARTHAUSER, Miss H. M. B.Sc. — Dept of Embryol., Univ. Coll. London, Gower St, LONDON W.C. 1, England
- Study of cell relations in tissue culture. *Gallus domesticus* (*Aves*) (in collaboration with M. ABERCROMBIE)
- KATAKURA, Y. M.A. — Biol. Lab., Keio Univ., YOKOHAMA, Hiyoshi, Japan
- Development of the sex characters. *Armadillidium vulgare* (*Isopoda*, *Crustacea*)
- KATO, K. — Lab. of Embryol. and Exper. Morphol., Zool. Inst., Dept of Sci., Kyoto Univ., KYOTO, Japan
- Mechanism of mesodermal differentiation. *Triturus pyrrhogaster* (*Urodela*)
- KATO, M. Ph.D. — Lab. of Embryol. and Exper. Morphol., Zool. Inst., Dept of Sci., Kyoto Univ., KYOTO, Japan
- Mechanism of pigment formation. *Bombyx mori*, *Papilio xuthus hon-doensis*, *Philosamia cynthia ricini* (*Lepidoptera*)
- KATO, M. B.Sc. — Biol. Inst., Fac. of Sci., Nagoya Univ., Chigusa-Ku, NAGOYA, Japan
- The mechanism of Wolffian lens regeneration. (*Amphibia*)
- KATSH, S. B.A., M.S., Ph.D. — Dept of Embryol., Carnegie Inst. of Washington, Wolfe and Madison Sts, BALTIMORE 5, Md, U.S.A.
- The induction of aspermatogenesis by homologous organ extracts: a study in specific inhibition. (*Mammalia*)

- KAWAKAMI, I. M.Sc., D.Sc., Prof. — Dept of Biol., Kyushu Univ., FUKUOKA, Japan
- Organizing substances in tissues. (*Mammalia*)
 - Effects of chemicals on development. (*Amphibia*), *Gallus spec.*, *Mus spec.* (*Amniota*)
 - Inductive substances in tissues. (*Amphibia*, *Mammalia*)
 - Special inductive capacities of cancer tissues. (*Amphibia*, *Mammalia*)
- KAWAKAMI, Mrs K. I. — Dept of Biol., Fac. of Sci., Kyushu Univ., FUKUOKA, Japan
- Mechanism of regeneration. *Eisenia foetida* (*Oligochaeta*)
 - Effects of chemicals on development. *Gallus spec.* (*Aves*)
 - Calcium metabolism and pearl-sac formation. *Pinctada martensii* (*Mollusca*)
 - Mechanism of pearl-sac formation. *Pinctada martensii* (*Mollusca*)
 - Spawning of germ-cells. *Pinctada martensii* (*Mollusca*)
- KAWAMURA, K. M.A. — Embryol. Section, Dept of Biol., Tokyo Metropolitan Univ., Setagaya-ku, TOKYO, Japan
- Comparative study of spermatocyte division. (*Orthoptera*)
- KAWAMURA, T. B.Sc., D.Sc., Prof. — Zool. Lab., Fac. of Sci., Hiroshima Univ., HIROSHIMA CITY, Japan
- KELLER, L. A.B. — Dept of Anat., Med. School, Univ. of Kansas, LAWRENCE, Kansas, U.S.A.
- Histochemical study of the developing nervous system and its relationship to developing behaviour patterns. DNA, RNA, acid and alkaline phosphatase. *Ambystoma maculatum* (*Urodela*) (in collaboration with P. G. ROOFE and Mrs E. L. WENGER)
- KELLY, W. A. B.Sc. — Dept of Zool., Univ. Coll. of North Wales, BANGOR, Caernarvonshire, N. Wales
- Immunological relations of mother and young. (*Mammalia*)
- KEMP, N. E. Ph.D., M.I.I.E. — Dept of Zool., Univ. of Michigan, ANN ARBOR, Mich., U.S.A.
- Use of radioactive isotopes as tracers in studies on the mechanism of synthesis of yolk. *Rana pipiens* (*Anura*)
 - Morphogenesis and metabolism of larvae after excision of heart. *Rana pipiens*, *Ambystoma punctatum* (*Amphibia*)
 - Electron microscopy of developing oocytes with special reference to the development of yolk and egg membranes (comparative study). (*Vertebrata*, *Vertebrata*)
 - Changes in the cortical cytoplasm following fertilization. *Fundulus heteroclitus* (*Pisces*)
- KIDO, T. — Zool. Inst., Fac. of Sci., Univ. of Kanazawa, KANAZAWA, Japan
- Regeneration and morphogenesis. *Planaria gonocephala* (*Turbellaria*)
- KIELBÓWNA, Miss L. M.Ph. — Zakład Zool. Ogólnej, Inst. Zool., Uniwersyte Wroclawiu, ul. Sienkiewicza 21, WROCLAW, Poland
- The morphogenetical functions of the thyroid gland and hypophysis. (*Amphibia*)
- KIENY, Mrs M. A. Dr ès Sci. — Lab. d'Embryol. expér. du Coll. de France, et Lab. d'Embryol. et de Tératol. expér. du C.N.R.S., 11 Place Marcelin Berthelot, PARIS Ve, France

Kieny-Kon

- a. Recherches sur la morphogénèse et les besoins nutritifs des os de cartilage en culture *in vitro*. *Gallus gallus* (*Aves*)
 - b. Problèmes relatifs aux causes de l'achondroplasie. *Gallus gallus*, var. Creeper (*Aves*)
- KIHLSTRÖM, J.-E. Fil.lic. — Inst. for Zoophysiol., Uppsala Univ., UPPSALA, Sweden
- a. The physiology of ripening in spermatozoa. (*Mammalia*)
- KILLE, R. A. B.Sc., Ph.D. — Dept of Zool., Univ. of Edinburgh, West Mains Rd, EDINBURGH 9, Scotland
- a. Fertilization. *Lampetra* spec. (*Cyclostomata*)
- KINDAHL, Miss M. Fil.dr — Linnégatan 22, STOCKHOLM Ö, Sweden
- a. The development of the teeth. (*Insectivora*)
- KING, T. J. B.S., M.S., Ph.D. — Lankenau Hospital Research Inst. and Inst. for Cancer Research, Burholm Ave, Fox Chase, PHILADELPHIA 11, Pa, U.S.A.
- KING, T. S. M.B., Ch.B. — Dept of Anat., Fac. of Med., Univ. of Sheffield, SHEFFIELD, England
- a. Histological studies of the cardiac conducting system. (*Cetacea, Carnivora*)
- KINOSITA, H. Dr.Sci., Prof. — Zool. Inst., Fac. of Sci., Tokyo Univ., TOKYO, Japan
- (no embryological work in progress)
- KIORTSIS, V. Dr ès Sci. — Inst. de Zool. et d'Anat. Comp., Univ. de Genève, GENÈVE, Suisse
- a. Limb regeneration in the adult and larval animal. (*Urodela*)
 - b. Influence of the nervous system in tail regeneration (spinal cord and spinal nerves). *Salamandra salamandra* (*Urodela*)
 - c. Cumulative action of nerves and sexual hormones on the crest of the adult. *Triturus cristatus* (*Urodela*)
- KIRRMANN, J. M. Lic.ès Sci. — Lab. d'Embryol. expér. du Coll. de France, et Lab. d'Embryol. et de Tératol. expér. du C.N.R.S., 11 Place Marcelin Berthelot, PARIS 5e, France
- a. L'influence protectrice de la cystéamine et de différentes substances chimiques contre l'action tératogène des rayons X.
- KISSEN, A. T. — Dept of Physiol., Ohio State Univ., COLUMBUS 10, Ohio, U.S.A.
- a. Embryology. *Mustela* spec. (*Carnivora*)
- KLAPPER, C. E. A.B., Ph.D. — Univ. of Alabama, Med. Center, BIRMINGHAM 5, Alabama, U.S.A.
- KLEISS, E. Dr Med., Prof. — Dept of Anat., Fac. de Ci. Med., Universidad de los Andes, MERIDA, Venezuela
- a. Development of the tongue and other organs of the mouth; teratology. *Homo sapiens* (*Primates*)
- KLOFT, W. Dr rer.nat. — Inst. für Angewandte Zool. der Univ., Naturw. Fak., Röntgenring 10, WÜRZBURG, Deutschland
- KNIGHT, Miss P. F. A.B., M.S. — Dept of Zool., Univ. of Calif., LOS ANGELES 24, Cal., U.S.A.
- KNIGHT-JONES, E. W. B.Sc., D.Phil. — Dept of Zool., Univ. Coll. of Swansea, Singleton Park, SWANSEA, Glamorganshire, Wales
- a. Factors inducing metamorphosis. *Hydroides norvegica* (*Polychaeta*)
- KNOUFF, R. A. Ph.D., Prof. — Dept of Anat., Ohio State Univ., COLUMBUS 10, Ohio, U.S.A.

- KOCHER, W. — Zool.-vergl. Anat. Inst., Naturw. Fak., Univ. Zürich, Künstlergasse 16, ZÜRICH 6, Schweiz
- KOECKE, H.-U. Dr. Phil. — Zool. Inst. der Univ. Köln, Kerpenerstr. 13, KÖLN-LINDENTHAL, Deutschland
- a. Krebsproblem als entwicklungsphysiologisches Problem. *Mus spec. (Rodentia)*, *Columba spec. (Aves)*
 - b. Probleme der Entwicklungsphysiologie. *Columba spec. (Aves)*
 - c. Neuralleistenentwicklung und Pigmentierung. *Anas spec. (Aves)*
- KOJIMA-KUNO, M. M.A. — Marine Biol. Station, Nagoya Univ., Suga-shima-cho, TOBA, Mie-ken, Japan
- a. Physiological studies on the cleavage of eggs. *Hemicentrotus pulcherri-mus*, *Pseudocentrotus depressus (Echinoidea)*
- KOLLROS, J. J. Ph.D., M.I.E., Prof. — Dept of Zool., State Univ. of Iowa, IOWA CITY, Iowa, U.S.A.
- a. Influence of peripheral and intracerebral factors upon the growth of the midbrain. *Rana spec.*, *Bufo spec.*, *Pseudacris spec. (Anura)*
 - b. Metamorphic effects of thyroxine in very low concentrations, and in higher concentrations applied locally. *Rana spec.*, *Bufo spec.*, *Pseudacris spec.*, *Ambystoma spec. (Amphibia)*
 - c. Regeneration of the midbrain in embryos and larvae. *Rana spec.*, *Bufo spec.*, *Pseudacris spec.*, *Xenopus spec. (Anura)*
 - d. Development of grafts of isolated segments of the central nervous system. (*Anura*)
 - e. Studies of mitosis in the developing central nervous system. (*Amphibia*)
 - f. Influence of thyroxine analogues upon metamorphosis. *Rana pipiens (Anura)*
 - g. Influence of the eyeball upon the development of the lids, cornea, nictitating membrane, palpebral fissure and tear glands. *Rana pipiens*, *Pseudacris nigrita (Anura)*
- KONIGSBERG, I. R. A.B., Ph.D. — Div. Chem. Embryol., Med. Center, Univ. of Colorado, 4200 East Ninth Ave, DENVER 20, Colo, U.S.A.
- a. Ontogeny of hormonal correlation of embryonic metabolism. *Gallus domesticus (Aves)*
 - b. Effect of hormones on muscle development. *Gallus domesticus (Aves)*
 - c. Chemistry of muscle differentiation. *Gallus domesticus (Aves)* (in collaboration with H. HERRMANN and A. J. SAMUELS)
- KONIGSBERG, Mrs U. ROTHFELS Ph.D. — Div. Chem. Embryol., Med. Center, Univ. of Colorado, 4200 East Ninth Ave, DENVER 20, Colo, U.S.A.
- a. Analysis of muscle tissue grown in vitro. *Homo sapiens (Primates)* (in collaboration with H. HERRMANN)
 - b. Study of developmental disturbances related to nutritional deficiencies investigated by application of anti-vitamins and anti-amino acids to the intact egg and to explants (somites). (*Aves*) (in collaboration with H. HERRMANN)
- KONOPACKA, Mrs B. Dr. M.V.S.S., Prof. — Inst. of Histol. and Embryol., Veter. Fac., ul. Grochowska 272, WARSZAWA, Poland
- a. Histochemical studies on the differentiation of epithelial cells in the intestine. *Sus domestica (Artiodactyla)*
 - b. Mitochondria in differentiating intestinal epithelial cells. *Sus domestica (Artiodactyla)*

Konopacka-Lan

- c. Histochemical studies on the developing mesonephros. *Sus domestica* (*Artiodactyla*)
- KOONO, J. Dr Med. — Anat. Dept, Fac. of Med., Nagasaki Univ., NAGASAKI, Japan
- a. Studies on lymph noduli of the intestine in Japanese fetuses (especially their surface area). *Homo sapiens* (*Primates*)
- b. Development of fatty tissue. *Homo* (*Primates*)
- KOŚCIELSKI, B. M.Ph. — Zakład Zool. Ogólnej, Inst. Zool., Uniw. we Wrocławiu, ul. Sienkiewicza 21, WROCLAW, Poland
- a. Morphogenetical functions and histophysiology of the thyroid gland and hypophysis. *Triturus* spec. (*Urodela*)
- KRABBE, K. H. Dr Med. — Tornblad-Inst. for comp. Embryol., Biskopsgatan 7, LUND, Sweden (from Kommunehospitalet, COPENHAGEN, Denmark)
- a. Special development of preoptic recess in brain of embryo. *Apteryx Mantelli* (*Ratitae, Aves*)
- KRAIŃSKA, Mrs M. K. Mag. of Sci. — Inst. of Histol. and Embryol., Veter. Fac., ul. Grochowska 272, WARSZAWA, Poland
- KRASSOWSKI, T. Dr — Inst. of Histol. and Embryol., Acad. of Med., ul. Chalubińskiego 5, WARSZAWA, Poland
- KRAUSE, G. Dr phil., M.I.E., Prof. — Zool. Inst. der Univ. Tübingen, Hölderlinstr. 12, TUBINGEN, Deutschland
- a. Experimentell erzeugte Duplicitas cruciata. *Tachycines asynamorus* Adelung (*Orthoptera*)
- b. Analyse der Keimanlagenbildung. *Tachycines asynamorus* Adelung (*Orthoptera*)
- c. Embryonalentwicklung. *Notonecta glauca* L. (*Hemipteroidea*)
- KROPP, B. N. A.M., Ph.D., Prof. — Dept of Histol. and Embryol., Med. School, Queen's Univ., KINGSTON, Ont., Canada
- KRUGELIS — MacRAE, Mrs E. J. Ph.D. — Dept of Zool., Univ. of Cal., BERKELEY 4, Cal., U.S.A.
- KRUGER, A. W. M.D. — Veterans Administration Hospital, BROOKLYN 9, N.Y., U.S.A.
(no embryological work in progress)
- KRZYSTOFOWICZ, Miss A. B.Sc. — Zool. Dept of the Jagiellonian Univ., St Anne 6, KRAKOW, Poland
- a. Descriptive embryology. (*Curculionidae, Coleoptera*)
- b. Histochemical studies on development. *Melasoma populi* L. (*Coleoptera*) (in collaboration with Cz. JURA and Miss B. WEGLARSKA)
- KÜHN, A. Dr phil.h.c., Dr rer.nat., Dr med.h.c., Prof. — Max Planck-Inst. für Biol., Spemannstr. 34, TUBINGEN, Deutschland
- a. Wundheilung und Regeneration. *Ephestia* spec., *Ptychopoda* spec. (*Lepidoptera*)
- b. Entwicklung der Schuppen bei verschiedenen Mutanten und unter experimentellen Bedingungen. *Ephestia* spec., *Ptychopoda* spec. (*Lepidoptera*)
- c. Genwirkung und Phaenocopien bei der Ausbildung von Zeichnungsmustern. *Ephestia* spec., *Ptychopoda* spec. (*Lepidoptera*)
- d. Chemische Genwirkungen auf Augenpigmente und Flügelpigmente. *Ephestia* spec., *Plodia* spec., *Ptychopoda* spec. (*Lepidoptera*)
- e. Eiwachstum. (*Cladocera, Crustacea*)

- KUHN, O. Dr rer.nat., Prof. — Zool. Inst. der Univ. Köln, Kerpenerstr. 13, KÖLN-LINDENTHAL, Deutschland
- Hormonwirkungen in der Morphogenese.
 - Entwicklungsphysiologie der Feder. (*Aves*)
 - Wirkungsweise carcinogener und anderer Substanzen auf tierische Gewebe.
 - Regeneration und Wundheilung.
- KUME, M. M.A. — Zool. Lab., Fac. of Sci., Ochanomizu Univ., TOKYO, Japan
- KUŃSKI, H. M.D. — Inst. of Histol. and Embryol., Acad. of Med., Narutowicza 60, ŁODŹ, Poland
- Histochemistry of embryonal adrenal glands. (*Mammalia*)
- KURIKI, Y. — Biol. Inst., Fac. of Sci., Nagoya Univ., Chigusa-Ku, NAGOYA, Japan
- Nuclei acid metabolism and cell multiplication during early development. (*Echinodermata, Amphibia, Aves*) (in collaboration with R. OKAZAKI and Mrs T. OKAZAKI)
- KUTSKY, R. J. A.B., M.A. — Dept of Zool., Univ. of Calif., BERKELEY 4, Cal., U.S.A.
- KUUSI, Miss T. K. Dr Phil., M.I.I.E. — Zool. Lab., Univ. of Helsinki, P. Rautatiekatu 13, HELSINKI, Finland
- The chemical nature of specific inductive substances (isolated from liver and kidney of the guinea-pig), especially the inductive effects of protein and nucleic acid fractions of dead tissues. *Triturus spec. (Urodela)*
 - Study on the process of induction caused by the bone marrow of the guinea-pig, marked with radioactive glycine. *Triturus spec. (Urodela)*
 - The chemical nature of specific inductive substances (bone marrow of the guinea-pig); role of the proteins and nucleic acids. *Triturus spec. (Urodela)*
 - Study on the effect of permeability in induction. *Triturus spec. (Urodela)*
 - Inductions caused by spleen of guinea-pig and extracts and centrifugal fractions from the bone marrow of guinea-pig. *Triturus spec. (Urodela)*
- LAHAYE, Mrs J. Dr ès Sci. — Lab. de Biol. Anim., Centre d'Etudes Sup. Sci., Avenue Biarnay, RABAT, Maroc
- Régénération des nageoires. (*Teleostei*)
 - Endocrinologie et croissance. (*Teleostei*)
- LALLIER, R. A. Dr ès Sci. — Inst. de Biol. Physico-Chimique, 13 Rue Pierre Curie, PARIS Ve, France
- Li et développement embryonnaire, étude de la biochimie des embryons lithinés. *Rana fusca, Ambystoma mexicanum (Amphibia)*
 - Etude de l'induction. *Triton taeniatus (Urodela)*
 - Etude de la détermination embryonnaire. *Paracentrotus lividus, Arbacia punctulata (Echinoidea), Rana fusca (Anura)*
 - Biochimie du déterminisme sexuel. *Bonellia viridis (Chaetopoda)*
 - Structure et propriétés de la mésoglé. (*Ctenophora*)
- LANDAUER, W. Ph.D., Prof. — Dept of Anim. Genet., Coll. of Agric., Univ. of Connecticut, Storrs Agric. Exper. Stat., STORRS, Conn., U.S.A.
- Developmental studies on various mutants, such as "duplicate", "creeper" etc. *Gallus domesticus (Aves)*

- b. A causal analysis of teratogenic action of insulin and other chemical compounds on developing embryos. *Gallus domesticus* (*Aves*)
 - c. Hereditary (lethal) cyclocephaly and cyclopia. *Gallus domesticus* (*Aves*)
 - d. The nature and significance of phenocopies. *Gallus domesticus* (*Aves*)
 - e. The genetic role of sporadic variations. *Gallus domesticus* (*Aves*)
- LANGMAN, J. M.D., M.I.I.E. — Dept of Anat., McGill Univ., MONTREAL, Quebec, Canada
- a. Immuno-embryological research into lens development. *Gallus domesticus* (*Aves*)
 - b. Electrophoretic studies of yolk-sac proteins in relation to the protein configuration of the mother animal. (*Rodentia*)
- LANZAVECCHIA, G. Dr Biol. Sci. — Ist. di Zool. e Anat. Comp., Univ. di Milano, Via Celoria 10, MILANO, Italia
- a. Enzymes from eggs. (*Aves*)
 - b. Electron microscopy of the first differentiation. (*Amphibia*, *Aves*)
- LARAMBERGUE, M. de Dr ès Sci., Prof. — Lab. de Zool., Fac. des Sci., POITIERS, Vienne, France
- a. Recherches sur le développement embryonnaire de l'appareil génital hermaphrodite. (*Gastropoda*)
 - b. Différenciation des gamètes chez des formes hermaphrodites. (*Gastropoda*)
 - c. Croissance et embryologie. *Achatina spec.* (*Gastropoda*)
- LATIMER, H. B. Ph.D., Prof. (Emer.) — Dept of Anat., Med. School, Univ. of Kansas, LAWRENCE, Kansas, U.S.A.
- a. Study of two races, to determine the variation in relative weights of the various organs and parts in a large and in a small form. *Oryctolagus cuniculus* (*Lagomorpha*)
 - b. Quantitative study of the parts of the postnatal heart. *Oryctolagus cuniculus* (*Lagomorpha*)
- LATTA, J. S. Ph.D. — Dept of Anat., Coll. of Med., Univ. of Nebraska, 42nd and Dewey Avenue, OMAHA 5, Nebraska, U.S.A.
- LAVARACK, J. O. M.B., B.S., Ph.D. — Anat. Dept, Univ. of Melbourne, CARLTON N. 3, Victoria, Australia
- a. Histochemical investigation of early neural, notochordal and related tissues. *Gallus gallus* (*Aves*)
- LAVEN, H. Dr rer.nat. — Max Planck-Inst. für Biol., Spemannstr. 34, TÜBINGEN, Deutschland
- a. Fertilization. *Culex pipiens* (*Diptera*)
 - b. Normal and parthenogenetic development. *Culex pipiens* (*Diptera*)
- LEBLOND, C. P. M.D., Ph.D., Prof. — Dept of Anat., McGill Univ., MONTREAL, Quebec, Canada
- a. Development of the thyroid gland. (*Vertebrata*)
 - b. The development of bones and teeth as shown on radioautographs with the help of radio-carbon-containing substances. (*Vertebrata*)
- LECAMP, M. — Lab. d'Evolution des Êtres organisés, Fac. des Sci. de Paris, 105 Boulevard Raspail, PARIS VIe, France
- LEFEBVRES—BOISSELOT, Mrs. J. Dr ès Sci. — Lab. d'Embryol., Fac. de Méd., 45 Rue des Sts Pères, PARIS VIe, France
- a. Tératogénèse par carence en vitamines B. *Mus rattus* (*Rodentia*)
 - b. Développement anormal de l'encéphale par carence. *Mus rattus* (*Rodentia*)

- c. Développement du bec de lièvre. *Mus rattus* (*Rodentia*)
- LEGHISSA, S. Ph.D. — Lab. di Istol. ed Embriol., Ist. di Anat. Comp., Via Belmeloro 8, BOLOGNA (103), Italia
- a. Effects of antimetotics on the regeneration of peripheral nerves. (*Urodela, Anura*) (in collaboration with P. PASQUINI)
- LEGRAND, J.-J. Dr ès Sci. — Lab. de Zool., Fac. des Sci., POITIERS, Vienne, France
- a. Détermination et différenciation du sexe, castrations, greffes, corrélations humorales. Etude génétique de la monogénie. (*Oniscoidea, Isopoda, Crustacea*)
- b. Développement des coaptations. (*Oniscoidea, Isopoda; Decapoda, Crustacea*), (*Insecta*)
- c. Étude de la croissance. (*Oniscoidea, Isopoda, Crustacea*)
- d. Modalités de la reproduction. *Platyarthrus schöblii* (*Oniscoidea, Isopoda, Crustacea*)
- e. Analyse biométrique des populations de deux espèces soeurs dans le nord et le midi de la France. *Philoscia muscorum* Scopoli, *P. affinis* Verhoeff (*Oniscoidea, Isopoda, Crustacea*)
- LEHMAN, H. E. M.A., Ph.D. — Dept of Zool., Univ. of North Carolina, CHAPEL HILL, N.C., U.S.A.
- LEHMANN, F. E. Dr Phil., F.I.I.E., Prof. — Zool. Inst. der Univ. Bern, Sahlistr. 8, BERN, Schweiz
- a. Allometrisches Wachstum. (*Amphibia*) (in Zusammenarbeit mit diversen Mitarbeitern)
- b. Schwanzregeneration, normal und chemisch beeinflusst. *Xenopus* spec. (*Anura*) (in Zusammenarbeit mit diversen Mitarbeitern)
- c. Elektronenmikroskopische Struktur von tierischen Eiern. *Tubifex* spec. (*Oligochaeta*), (*Echinodermata*), (*Ascidiae*)
- d. Biochemie der Regeneration. (*Amphibia*) (in Zusammenarbeit mit diversen Mitarbeitern)
- †LELIÈVRE, A. Prof. — Lab. d'Embryol., Fac. de Méd., 45 Rue des Sts Pères, PARIS VIe, France (deceased)
- LEMEŽ, L. MUDr — Dept of Anat., Charles Univ., U nemocnice 3, PRAHA II, Czechoslovakia
- a. Embryonal haematology. Life-span of erythrocytes. Mitotic time of primitive erythrocytes. *Gallus domesticus* (*Aves*)
- b. Experimental analysis of the development of blood corpuscles. *Gallus domesticus* (*Aves*)
- LENDER, Th. Dr ès Sci. — Lab. d'Embryol. expér. du Coll. de France, et Lab. d'Embryol. et de Tératol. expér. du C.N.R.S., 11 Place Marcelin Berthelot, PARIS Ve, France
- a. Régénération des yeux. Rôle et nature des organes de la régénération des yeux. *Polycelis nigra* (*Turbellaria*)
- b. Régénération du cerveau. Les substances inhibitrices de la régénération, émises par le cerveau. *Polycelis nigra*, *Dugesia lugubris* (*Turbellaria*)
- LEONE, V. M.D., M.I.I.E. — Ist. di Zool. e Anat. Comp., Univ. di Milano, Via Celoria 10, MILANO, Italia
- a. Neoplastic formations. *Triturus* spec. (*Urodela*)
- b. Electron microscopy of the first differentiation. *Rana* spec. (*Anura*)

Lep-Lop

- LEPORI, N. G. Prof. — Ist. di Zool. e Anat. comp. dell'Univ., Via A. Volta 4, PISA, Italia
- Development of the gonads. (*Amphibia*)
- LERMA, B. de Dr Sci. Nat. Fis., Prof. — Ist. di Zool., Univ. di Bari, BARI, Italia
- LEROY, P. J. M. Dr ès Sci. — Lab. d'Histophysiologie, Coll. de France, Place Marcelin Berthelot, PARIS Ve, France
- Développement et physiologie des surrénales. *Gallus spec.*, *Anas spec.* (*Aves*)
- LEUSSINK, J. A. B.Sc. — Hubrecht Lab., Intern. Embryol. Inst., Janskerkhof 2, UTRECHT, Holland
- LEVAK, Miss B. M.Sc. — Inst. de Biol., Fac. de Méd., Salata, ZAGREB, Yougoslavie
- Experimental studies on early development. 1. Intrauterine injections of isotonic solutions of LiCl. 2. Transplantation of the blastocyst in different transfer media (with LiCl). *Rattus norvegicus albinus* (*Rodentia*) (in collaboration with N. SKREB)
- LEVER, J. Dr Phil., Prof. — Zool. Inst., Free Calvinistic Univ., Rapenburgerstr. 128, AMSTERDAM C, Holland
(no embryological work in progress)
- LEVI, G. L. Dr, F.I.I.E. Prof. (Emer.) — Inst. of human Anat., Fac. of Med., Corso Massimo d'Azeglio 52, TORINO, Italy
- Recherches sur les transformations qui se produisent dans les organismes et dans les tissus cultivés *in vitro* pendant l'accroissement. (*Amniota*)
 - Recherches sur les caractères de la structure et des propriétés biologiques dans les tissus cultivés *in vitro*. (*Amniota*)
- LEVI-MONTALCINI, Miss R. M.D., M.I.I.E. — Dept of Zool., Washington Univ., Lindell and Skinker Av., ST LOUIS 5, Mo., U.S.A.
- LEWIS, W. H. Dr, F.I.I.E., Prof. (Emer.) — Wistar Inst. of Anat. and Biol., PHILADELPHIA 4, Pa, U.S.A.
- LIEDKE, Mrs. K. BEYER Ph.D. — Dept of Biochem., Francis Delafield Hospital, Coll. of Physicians & Surgeons, NEW YORK 32, N.Y., U.S.A.
- Further studies with purine analogues in development, involving transplantation and explantation. *Rana pipiens* (*Anura*)
 - Electronmicroscopic studies of embryonic tissues. *Rana pipiens*, *Ambystoma punctatum* (*Amphibia*)
- LIÈVRE, Miss Fr. Lic.ès Sci., M.A. — Lab. d'Embryol. expér. du Coll. de France, et Lab. d'Embryol. et de Tératol. expér. du C.N.R.S., 11 Place Marcelin Berthelot, PARIS Ve, France
- Différenciation des cellules endocrines du pancréas chez l'embryon, et l'influence de l'hypophysectomie sur cette différenciation. *Gallus gallus* (*Aves*)
- †LILLIE, R. S. Ph.D., Sc.D. — Physiol. Lab., Univ. of Chicago, CHICAGO 37, Ill., U.S.A.
(deceased)
- LIMBORGH, J. van Med. Dr — Anat.-Embryol. Lab. der Rijks Univ., Janskerkhof 3, UTRECHT, Holland
- Origin of the asymmetry of the gonads. *Anas boschas* (*Aves*)
 - Sex differentiation. *Anas boschas* (*Aves*)

- LINDAHL, P. E. Fil.Dr, F.I.I.E., Prof. — Inst. for Zoophysiol., Uppsala Univ., UPPSALA, Sweden
- Large scale separation of macromeres, mesomeres and micromeres of the developing egg. (*Echinoidea*)
 - The mechanism of agglutination of spermatozoa. (*Mammalia*) (in collaboration with S. ROSS and N.-O. BODIN)
 - The primary sex rate. (*Mammalia*) (in collaboration with Mrs G. SUNDELL—THORSELL)
- LINDBERG, N. O. H. Phil.Dr — Wenner-Grens Inst. for exper. Biol., Norrtullsgatan 16, STOCKHOLM Va., Sweden
- Biochemistry and physiology of mitochondria. (*Echinoidea*)
- LINDH, N. O. Fil.Lic. — Zoophysiol. Inst., Univ. of Lund, LUND, Sweden
- LIOTTI, F. S. Dott. — Ist. di Biol. gen., Fac. di Med., S. Pietro, PERUGIA, Italia
- Ossifero di Spirito in embrioni a varie temperature. (*Anura*)
 - Rigenerazione. *Triton* spec. (*Urodela*)
- LIPSCHUTZ, A. M.D., Prof. — Instituto de Med. Exper., Av. Irarrázaval 849, SANTIAGO, Chile, S. America
- LISON, L. Prof. — Fac. de Méd. de Ribeirão Preto, Univ. de São Paulo, SÃO PAULO, Brésil
- LIU, C. N. B.S., Ph.D. — Dept of Anat., School of Med., Univ. of Pennsylvania, PHILADELPHIA 4, Pa, U.S.A.
- LÖBBECKE, E.-A. — Institut für Entwicklungsphysiologie, Univ. zu Köln, Gyrhofstr. 17, KÖLN-LINDENTHAL, Deutschland
- Segmentierung des Abdomen bei der Neubildung während der Metamorphose. *Drosophila melanogaster* (*Diptera*)
 - Segmentierungs- und Determinationsvorgänge der Beinentwicklung. *Drosophila melanogaster* (*Diptera*)
- LOEWENTHAL, Miss L. A. A.B., A.M., Ph.D. — Dept of Zool., Univ. of Michigan, ANN ARBOR, Mich., U.S.A.
- Histological and histochemical study on homozygous Creeper embryos. *Gallus domesticus* (*Aves*)
- LONG, W. N. — Dept of Embryol., Carnegie Inst. of Washington, Wolfe and Madison Sts, BALTIMORE 5, Md, U.S.A.
- Determinations of blood, amniotic and intervillous space pressures throughout pregnancy. *Macaca mulatta* (*Primates*) (in collaboration with Miss E. M. RAMSEY and G. W. CORNER Jr)
- LOOSLI, R. — Zool.-vergl. Anat. Inst., Naturw. Fak., Univ. Zürich, Künstlergasse 16, ZÜRICH 6, Schweiz
- LOPASHOV, G. V. Dr Biol.Sci., F.I.I.E., Prof. — Inst. of Animal Morphol. of the Acad. of Sci. of the U.S.S.R., Bolshaja Kalushskaja 33, MOSCOW V-71, U.S.S.R.
- Complex analysis of conditions of embryonic development of the parts of the eye rudiment. *Triturus taeniatus*, *T. vittatus*, *Ambystoma mexicanum* (*Urodela*), *Rana arvalis*, *R. esculenta*, *R. ridibunda*, *Bufo viridis*, *Pelobates fuscus* (*Anura*)
 - Analysis of significance of intracellular components and of the composition of the medium on the development of embryonic cells (ectoderm, neural plate, eye rudiment). *Ambystoma mexicanum* (*Urodela*), *Rana arvalis*, *R. ridibunda* etc. (*Anura*), *Misgurnus fossilis* (*Teleostei*)

- c. Analysis of sources and conditions of retina regeneration in tadpoles. *Bufo viridis*, *Rana arvalis* (*Anura*)
- LOS, J. A. Med.Drs — Anat.-Ebryol. Sch. of the Univ. of Leyden, Fac. of Med., Wassenaarseweg, Boerhaavekwartier, LEIDEN, Holland
- a. Normal and abnormal development of the heart. *Homo sapiens* and other *Animalia* (in collaboration with J. DANKMEIJER)
- LOVELACE, Miss L. R. B.S., M.S., Ph.D. — Dept of Biol., Univ. of South Carolina, COLUMBIA, S.C., U.S.A.
- LQVTRUP, S. Dr Phil. — Fac. of Med., Univ. of Gothenburg, 4: de Långgatan 7, GÖTEBORG, Sweden
- a. Chemical differentiation during development at different temperatures. Enzymes and nucleic acids. *Siredon mexicanum* (*Urodela*), *Rana temporaria* (*Anura*)
- b. Metabolism during development at different temperatures. *Siredon mexicanum* (*Urodela*)
- c. Mechanism of determination of bilateral symmetry and of gastrulation. (*Amphibia*)
- LUCEY, E. C. A. B.Sc. — Inst. of Animal Genet., Univ. Dept of Genet., King's Buildings, West Mains Rd, EDINBURGH 9, Scotland
- a. Film of normal development. *Oryctolagus cuniculus* (*Lagomorpha*) (in collaboration with R. A. BEATTY)
- LÜDTKE, H. Dr, Prof. — Zool. Inst. der Univ., Katharinenstr. 20, FREIBURG i. Brsg., Deutschland
- LUDWIG, D. A.B., Ph.D. — Biol. Lab., Fordham Univ., NEW YORK 58, N.Y., U.S.A.
- a. Effects of substrates and inhibitors on oxygen consumption of homogenates during embryonic development. *Tenebrio molitor*, *Popillia japonica* (*Coleoptera*)
- b. Study of respiratory enzymes during development. *Tenebrio molitor*
- LUDWIG, K. S. M.D. — Anat. Inst., Pestalozzistr. 20, BASEL, Schweiz
- LUGLI, Miss L. Dr — Ist. di Zool. e Anat. comp., Via Università 4, MODENA, Italia
- a. Activity of sex hormones on the sex differentiation of gonads and Bidder's organs. *Bufo bufo* (*Anura*)
- LÜSCHER, M. Dr Phil., a.o. Prof. — Abt. f. Zoophysiol., Zool. Inst. der Univ. Bern, Sahlistr. 8, BERN, Schweiz
- a. Differentiation of castes in termites, especially the determination of supplementary reproductives in primitive termites. *Kaloterms flavicollis* (Fabr.) (*Isoptera*, *Insecta*)
- b. Descriptive and experimental study of the glands producing moulting and metamorphosis hormones. *Zootermopsis nevadensis* (Hagen) (*Isoptera*, *Insecta*)
- LUTHER, W. Dr Phil., Prof. — Zool. Inst. der Technischen Hochschule, DARMSTADT, Deutschland
- a. Regeneration (limb, skin). (*Urodela*)
- b. Effects of ionizing radiations on regeneration. Various spp. (*Amphibia*), *Rattus norvegicus*, *Mesocricetus auratus* (*Rodentia*)
- LUTZ, H. Dr ès Sci., M.I.I.E., Prof. — Lab. de Zool., 1 Avenue Vercingétorix, CLERMONT-FERRAND, France
- a. Développement du blastoderme pendant les premières heures de l'incubation. *Anas spec.* (*Aves*)

- b. La polyembryonie expérimentale; l'orientation des embryons. (*Aves*)
 - c. Polyembryonie expérimentale. (*Salmonidae, Teleostei*) (en collaboration avec Mrs. Y. LUTZ—OSTERTAG)
 - d. Formation de l'entoblaste. (*Aves*)
 - e. Action des ultra-sons sur l'embryon et sur différents organes. *Gallus spec.* (*Aves*) (en collaboration avec Mrs Y. LUTZ-OSTERTAG)
 - f. Culture *in vitro* du blastoderme. (*Aves*) (en collaboration avec Mrs Y. LUTZ—OSTERTAG)
 - g. Développement de la glande uro-pygie. (*Aves*)
- LUTZ—OSTERTAG, Mrs. Y. Dr ès Sci. — Lab. de Zool., 1 Avenue Vercingétorix, CLERMONT-FERRAND, France
- a. La genèse de l'asymétrie du tractus génital et la régression des canaux de Müller par la méthode d'explantations. *Gallus spec.* (*Aves*)
 - b. Rôle des hormones dans la différenciation primaire du sexe. *Gallus spec.* (*Aves*) (en collaboration avec Et. WOLFF)
 - c. Polyembryonie expérimentale. (*Salmonidae, Teleostei*) (en collaboration avec H. LUTZ)
 - d. Action des ultra-sons sur l'embryon et sur différents organes. *Gallus spec.* (*Aves*) (en collaboration avec H. LUTZ)
 - e. Culture *in vitro* du blastoderme. (*Aves*) (en collaboration avec H. LUTZ)
- LYDECKEN, K. M.A., B.M. — Anat. Inst., Univ. of Helsinki, HELSINKI, Finland
- a. Development of the anterior pituitary and thyroid gland. *Mus musculus* (*Rodentia*)
- LYNE, A. G. B.Sc. — Div. of Animal Health and Production, C.S.I.R.O., Sheep Biol. Lab., Great Western Highway, (P.O. Box 144 Parramatta), PROSPECT, N.S.W., Australia
- a. Development of skin and hair. *Trishosurus vulpecula, Perameles nasuta* (*Marsupialia*)
 - b. Structure and development of hair follicles and associated glands. *Bos taurus, Ovis spec.* (*Mammalia*)
- LYNN, W. G. A.B., Ph.D. — The Catholic Univ. of America, WASHINGTON, D.C., U.S.A.
- a. Role of the thyroid in direct development. *Eleutherodactylus ricordi* (*Anura*)
 - b. Factors in degeneration of the pronephros. *Rana pipiens* (*Anura*)
- LYON, Miss M. F. Ph.D. — Radiobiol. Res. Unit., Atomic Energy Res. Establ., HARWELL, Berkshire, England
- a. Developmental study of absence of otholiths. *Mus musculus* (*Rodentia*)
 - b. Developmental study of the zigzag mutant. *Mus musculus* (*Rodentia*)
 - c. Developmental study of ear mutants. *Mus musculus* (*Rodentia*)
- MACFADYEN, A. M.A. — Dept of Zool., Univ. Coll. of Swansea, Singleton Park, SWANSEA, Glamorganshire, Wales
- a. Development with normal and subnormal yolk supplies. *Hydroides norvegica* (*Polychaeta*)
- MACMILLAN, E. W. Dr — Dept of Anat., Univ. of Liverpool, LIVERPOOL, England
- a. The importance of the epididymis and its vascularization for spermatogenesis. (*Mammalia*)

- b. The rate of transport of spermatozoa through the ductus epididymidis. (*Mammalia*)
- c. The influence of testosterone propionate on the epididymis. (*Mammalia*)
- d. The reaction of the epididymis to vital dyes. (*Mammalia*)
- MAGGIO, Miss R. Ph.D. — Ist. di Anat. Comp., Via Archirafi 18, PALERMO, Italia
- a. Enzymatic activities of mitochondria of the egg. (*Echinoidea*)
- MAKINO, S. Prof. — Dept of Zool., Fac. of Sci., Hokkaido Univ., SAPPORO, Japan
- a. DNA contents in treated and non-treated tumor cells. *Rattus norvegicus* (*Rodentia*)
- b. Chromosome analyses in tumor tissues, with special reference to the shift of chromosomes and the arising of new types of tumors. *Rattus norvegicus* (*Rodentia*)
- MALAN, Miss M. E. D.Sc. — Zool. Inst., Univ. of Stellenbosch, STELLENBOSCH, South Africa
- a. Gastrulation. *Testudo pardalis* (*Chelonia*)
- MANCUSO, V. Dr — Ist. di Zool., Via Archirafi 18, PALERMO, Italia
- a. The distribution of enzymes and other substances in the germ during development. (*Vertebrata*)
- b. Ultrastructure of some blastomeres in mosaic eggs. (*Vertebrata*)
- MANELLI, E. Dr Nat.Sci. — Ist. di Anat. Comp., Via Belmeloro 8, BOLOGNA (103), Italia
- a. Analysis of development of some proteins (antigen-reactions). (*Amphibia*)
- b. Researches on development of blood cells in relation with circulation (explantation and transplantation). (*Amphibia*)
- c. Origin and development of pronephros and mesonephros (explantation). (*Amphibia*)
- d. Effects of low temperature on early development. (*Amphibia*) (in collaboration with P. PASQUINI)
- e. Researches on variations of seric proteins by means of electrophoresis. *Ambystoma* spec. (*Urodela*)
- MANGOLD, O. Dr, F.I.I.E. Prof. — Heiligenberg-Inst., (17b), HEILIGENBERG, Kreis Ueberlingen/Bodensee, Deutschland
- a. Einfluss äusserer Faktoren auf die Entwicklung. (*Urodela*)
- b. Untersuchungen zur kausalen Morphologie des Kopfes. (*Urodela*)
- c. Untersuchungen über den determinierenden Einfluss des Entoderms. (*Urodela*)
- MANHOFF, Jr., L. M.D. — Rob't B. Green Hosp., SAN ANTONIO 7, Tex., U.S.A.
- MANTON, S. M. F.R.S., M.A., Sc.D. — King's Coll., Strand, LONDON W.C. 2, England
- a. Embryology. *Peripatopsis* spec. (*Onychophora, Annelida*)
- b. General embryology. *Polydesmus* spec. (*Diplopoda*)
- MARCHAND, J. M. M.Sc., Ph.D. — Division of Fisheries, Beach Road, Sea Point, CAPE TOWN, South Africa
(no embryological work in progress)
- MARCONNET, R. — Lab. d'Histol., Dép. d'Embryol., Fac. de Méd., 31 Rue Lionnois, NANCY (Meurthe & Moselle), France

- a. Action tératogène de l'urée. (*Amphibia*) (en collaboration avec A. DOLLANDER)
- MARIN, G. Dr — Ist. di Zool. e Anat. comp., Fac. di Sci., Via Loredan 10, PADOVA, Italia
- a. Early development and sex differentiation of gonads. *Gallus spec.* (*Aves*)
- MARIN—LEWIN, Mrs L. Lic.ès Sci. — Lab. d'Embryol. expér. du Coll. de France, et Lab. d'Embryol. et de Tératol. expér. du C.N.R.S., 11 Place Marcelin Berthelot, PARIS Ve, France
- a. Etude du comportement du foie embryonnaire cultivé *in vitro*. *Gallus gallus* (*Aves*)
- MARKERT, C. L. Ph.D., M.I.I.E. — Dept of Biol., The Johns Hopkins Univ., Charles and 34th Sts, BALTIMORE 18, Md., U.S.A.
- a. The role of genotype and embryological history in the utilization of specific substrates for melanogenesis. *Mus musculus* (*Rodentia*)
- b. Influence of cell population on melanoblast differentiation. *Mus musculus* (*Rodentia*)
- c. Changes in synthetic ability during cellular differentiation. *Gallus domesticus* (*Aves*), *Mus musculus* (*Rodentia*)
- d. Ontogeny of enzymes. *Gallus domesticus* (*Aves*), *Mus musculus* (*Rodentia*)
- MARSLAND, D. A. B.Sc., M.S., Ph.D. — Biol. Dept, Washington Square Coll. of Arts and Sci., New York Univ., Washington Square. NEW YORK 3, N.Y., U.S.A.
- a. Induction of premature cleavage furrows by centrifugation. *Arbacia punctulata* (*Echinoidea*)
- MARTIN, Miss B. A. M.A., Ph.D. — Dept of Biol., Brooklyn Coll., Bedford Ave and Ave H, BROOKLYN 10, N.Y., U.S.A.
- a. Cytology and embryology. (*Insecta*)
- MARTIN, B. F. M.D., B.Ch., B.Sc. — Dept of Anat., Fac. of Med., Univ. of Sheffield, SHEFFIELD, England
- a. Histochemical studies. (*Mammalia*)
- MARTINET, Mrs M. Dr ès Sci. — Lab. d'Embryol., Fac. de Méd., 45 Rue des Sts Pères, PARIS VIe, France
- a. Influence tératogène des intoxications. *Mus rattus* (*Rodentia*)
- b. Influence tératogène de l'hypervitaminose A. *Mus rattus* (*Rodentia*)
- MASUDA, H. B.Sc. — Dept of Biol., Naniwa Univ., Sakai, OSAKA, Japan
- MASUI, Y. — Biol. Lab., Dept of Sci., Kōnan Univ., KOBE, Japan
- a. Influence of LiCl upon the inductive specificity of the organizer. *Triturus spec.*, *Hynobius spec.*, *Rana spec.*, *Bufo spec.* (*Amphibia*)
- MATĚJKA, M. Dr — Inst. of Histol. and Embryol., Fac. of Med., Charles Univ., Karlovarská 48, PLZEŇ, Czechoslovakia
- a. The morphogenesis of the genital organs from the standpoint of evolutionary morphology. (*Amniota*, including *Homo sapiens*)
- MATHER, W. B. Ph.D. — Zool. Dept, Univ. of Queensland, George St. BRISBANE, Queensland, Australia
(no embryological work in progress)
- MATSUMOTO, J. M.A. — Biol. Lab., Keio Univ., YOKOHAMA, Hiyoshi, Japan
- a. Correlation between pigment formation and fluorescent substances during post-embryonal stages. *Carassius auratus* (*Teleostei*)

Maw-Mic

- MAWATARI, Sh. D.Sc. — Res. Inst. for Nat. Resources, Hyakunin-cho, 400, Shinjuku, TOKYO, Japan
- MAY, R. M. Ph. D., Dr ès Sci., Dr en Méd., Prof. — Lab. de Biol. Anim., Pavillon Curie, Univ. de Paris, 12 Rue Cuvier, PARIS Ve, France
- Brephoplastic transplantation. *Mus musculus* (Rodentia)
 - Tissue culture and embryonic transplantation. *Gallus domesticus* (Aves)
- MAYER, G. Prof. Dr — Lab. d'Histol. et d'Embryol., Fac. de Méd., Univ. de Bordeaux, BORDEAUX, France
- MAZIA, D. Ph.D. — Dept of Zool., Univ. of California, BERKELEY 4, Cal., U.S.A.
- MAZZONI—DE CESARE, Mrs. I. Dr Nat. Sci. — Ist. di Anat. Comp., Via Belmeloro 8, BOLOGNA (103), Italia
- Action of antimetotics on early development. (*Amphibia*) (in collaboration with P. PASQUINI)
- McCAFFERTY, R. E. Ph.D. — Dept of Anat., School of Med., Univ. of Maryland, BALTIMORE 1, Md, U.S.A.
- McCALLION, D. J. B.A., M.A., Ph.D., Prof. — Dept of Zool., Univ. of Toronto, TORONTO, Ont., Canada
- The development of neural differentiation tendencies in the neurectoderm of the chick embryo just in front of the primitive node with special emphasis upon their regional character. *Gallus domesticus* (Aves)
- McKAY, D. G. B.S., M.D. — Dept of Pathol., Harvard Univ., Med. School, 25 Shattuck St, BOSTON 15, Mass., U.S.A.
- Boston Lying-in Hospital, 221 Longwood Ave, BOSTON 15, Mass.
- Free Hospital for Women, 245 Pond Ave, BROOKLINE, Mass.
- Histochemical studies on developing embryos. *Homo sapiens* (Primates) (in collaboration with A. T. HERTIG and Miss E. C. ADAMS)
 - Histochemical studies on abnormal trophoblast with special reference to hydatidiform mole and chorionepithelioma. *Homo sapiens* (Primates) (in collaboration with A. T. HERTIG, K. BENIRSCHKE, W. BARDAWIL and Miss E. C. ADAMS)
- McKEEHAN, M. S. M.S., Ph.D. — Dept of Anat., School of Med., Univ. of Virginia, CHARLOTTESVILLE, Va, U.S.A.
- Problems of growth and differentiation as studied in the developing lens. *Gallus domesticus* (Aves)
- McLAREN, Mrs A. M.A., D.Phil. — Roy. Veterinary Coll., Royal College St, LONDON N.W. 1, England
- Influence of pre-natal environment upon development, investigated by transfer of fertilized eggs. *Mus musculus* (Rodentia) (in collaboration with D. MICHIE)
 - Induction of super-fecundity by hormone treatment. *Mus musculus* (Rodentia) (in collaboration with D. MICHIE)
- McMINN, R. M. H. M.B., Ch.B., Ph.D. — Dept of Anat., Fac. of Med., Univ. of Sheffield, SHEFFIELD, England
- Epithelial regeneration in various organs. (*Mammalia*)
- McMURRAY, Miss V. M. A.B., M.S., Ph.D. — Dept of developm. Biol., Rockefeller Inst. for Med. Research, 66th St and York Ave. NEW YORK 21, N.Y., U.S.A.
- McNUTT, C. W. A.B., M.S., Ph.D. — Dept of Anat., Med. Branch, Univ. of Texas, GALVESTON, Tex., U.S.A. (Rodentia)
- Analysis of morphological effects of the short ear gene. *Mus musculus*

- b. A study of the dwarf gene in association with other genes. *Mus musculus* (*Rodentia*)

MEDAWAR, P. B. M.A., D.Phil., F.R.S., Prof. — Dept of Zool. and Comp. Anat., Univ. Coll. London, Gower St, LONDON W.C. 1, England

- a. Development of capacity to respond to antigens. *Gallus domesticus*, *Anas platyrhynchos* (*Aves*), *Mus musculus*, *Rattus rattus*, *Cavia porcellus* (*Rodentia*), *Oryctolagus cuniculus* (*Lagomorpha*), *Bos taurus* (*Artiodactyla*)

MENDONÇA, H. Prof. — Cadeira de Histol. e Embriol., Fac. de Medicina, Univ. do Recife, Caixa Postal N. 616, RECIFE, Brasil
(no embryological work in progress)

MENKES, B. Dr med., Prof. — Academia Republicii Populare Romine, Baza de cercetări știintifice Timișoara, Bdul Mihai Viteazul 24, TIMIȘOARA, Roumanie

- a. Embryonale Heterotransplantationen. Melanogenese. *Gallus domesticus* (*Aves*)
- b. Regeneration im Zentralnervensystem. *Gallus domesticus* (*Aves*)
- c. Elektrophoretische Analyse der Entwicklungsprozesse. *Gallus domesticus* (*Aves*)
- d. Entwicklung der Reaktivität beim Embryo. *Gallus domesticus* (*Aves*)

MENSCHIK, Z. B.A., M.D., D.Sc., L.M.C.C., Prof. — Dept of Anat., School of Med., Georgetown Univ., 3900 Reservoir Road, N.W., WASHINGTON 7, D.C., U.S.A.

- a. Dietary factors in development. *Oryctolagus cuniculus* (*Lagomorpha*)
- b. Vitamin E and unsaturated fatty acids in the development and maintenance of connective tissue. *Oryctolagus cuniculus* (*Lagomorpha*)

METTETAL, C. Dr ès Sci. — Lab. de Biol. Anim., Centre d'Etudes Sup. Sci., Avenue Biarnay, RABAT, Maroc

- a. La régénération des membres, plus spécialement la détermination des parties du membre à l'intérieur du bourgeon de régénération. (*Urodela*)

METZ, C. B. Ph.D., M.I.I.E. — Dept of Zool., Florida State Univ., TALLAHASSEE, Florida, U.S.A.

MEURLING, P. B. fil.mag. — Embryol. Dept, Zool. Inst. of the Univ. of Lund, LUND, Sweden

- a. The development of the pituitary. (*Elasmobranchia*)

MEYER, D. B. Dr — Dept of Anat., Coll. of Med., Wayne State Univ., DETROIT 7, Mich., U.S.A.

- a. Morphogenesis and developmental histochemistry of embryonic eye. *Gallus domesticus* (*Aves*) (in collaboration with R. O'RAHILLY)

MIALE, Miss I. A.B., Ph.D. — Section Devel. and Regen., Lab. of Neuroanat. Sci., NINDB, Nat. Inst. of Health, BETHESDA, Md, U.S.A.

- a. Histochemistry of brain in development.

MICHAEL, M. I. B.Sc., M.Sc., Ph.D. — Dept of Zool., Alexandria Univ., Moharram Bey, ALEXANDRIA, Egypt

- a. The development of the nasal capsules. *Bufo regularis* (*Anura*) (in collaboration with S. N. SEDRA)
- b. The structure of the hyobranchial apparatus of the tadpoles. *Bufo regularis* (*Anura*) (in collaboration with S. N. SEDRA)
- c. The development of the columella auris. *Bufo regularis* (*Anura*) (in collaboration with S. N. SEDRA)

- MICHIE, D. M.A., D.Phil. — Roy. Veterinary Coll., Royal College St, LONDON N.W. 1, England
- Influence of pre-natal environment upon development, investigated by transfer of fertilized eggs. *Mus musculus (Rodentia)* (in collaboration with Mrs A. McLAREN)
 - Induction of super-fecundity by hormone treatment. *Mus musculus (Rodentia)* (in collaboration with Mrs A. McLAREN)
- MICHON, J. Dr ès Sci. — Lab. de Zool., Fac. des Sci., POITIERS, Vienne, France
(no embryological work in progress)
- MIFUNE, S. M.Sc. — Dept of Biol., Fac. of Sci., Kyushu Univ., FUKUOKA, Japan
- Inductive action of fresh mouse tissues and the modification of it by various methods. (*Amphibia, Mammalia*)
 - Nature of protein responsible for induction. (*Amphibia, Mammalia*)
- MILAIRE, J. M.D. — Lab. d'Anat. et d'Embryol., Fac. de Méd. de l'Univ., 97 Rue aux Laines, BRUXELLES, Belgique
- Cytochemistry of limb buds. (*Vertebrata*)
- MILIN, R. Prof. — Inst. d'Histol. et d'Embryol., Fac. de Méd., SARAJEVO, Yougoslavie
- MILLARD—BOKENHAM, Mrs N. A. H. Ph.D. — Dept of Zool., Univ. of Cape Town, Rondebosch, CAPE TOWN, South Africa
(no embryological work in progress)
- MILLER, J. A., Jr. A.B., Ph.D. — Dept of Anat., Emory Univ. ATLANTA, Ga., U.S.A.
- MILLER, J. R. B.Sc., M.Sc. — Dept of Genetics, McGill Univ., MONTREAL, Quebec, Canada
- Effects of maternal fasting on embryonic development in various strains. *Mus musculus (Rodentia)*
- MINA, E. Y. M.D. — Dept of Anat., Fac. of Med., ALEXANDRIA, Egypt
- A study of the competence of the prechordal part of the neural plate (or tube) for neural crest formation under conditions of explantation at different stages of development. (*Amphibia*)
 - Regeneration of the optic vesicle. (*Amphibia*)
- MINAMORI, S. B.Sc. — Zool. Lab., Fac. of Sc., Hiroshima Univ., HIROSHIMA CITY, Japan
- MINGANTI, A. Dr, M.I.I.E. — Ist. di Zool., Via Archirafi 18, PALERMO, Italia
- Development and cytology of hybrids. (*Ascidiae, Urochordata*)
 - Chemical and physiological investigations on the jelly. (*Amphibia*)
 - Respiratory systems in eggs and embryos. (*Evertebrata*)
- MINTZ, Miss B. A.B., M.S., Ph.D. — Whitman Lab., Univ. of Chicago, 5700 S. Ingleside, CHICAGO 37, Ill., U.S.A.
- Origin, migration and development of germ cells in normal, mutant and irradiated embryos. *Gallus domesticus (Aves)*, *Mus musculus (Rodentia)*
 - Developmental interactions between normal and mutant cells. *Gallus domesticus (Aves)*, *Mus musculus (Rodentia)*
- MIOROLLI, M. — Ist. Italiano di Idrobiologia, PALLANZA, Italia
- Study of the oocytes. *Dugesia lugubris (Turbellaria)*

- MITCHISON, J. M. M.A., Ph.D. — Dept of Zool., Univ. of Edinburgh, West Mains Rd, EDINBURGH 9, Scotland
- a. Growth of single cells. *Schizosaccharomyces pombe* (*Saccharomycetes*)
- MITCHISON, N. A. M.A., D.Phil. — Dept of Zool., Univ. of Edinburgh, West Mains Rd, EDINBURGH 9, Scotland
- a. Transplantation into chicken eggs of turkey haemopoietic and lymphoid elements. *Gallus gallus*, *Meleagris gallipavo* (*Galliformes*, *Aves*)
- MITRA, S. M.B., B.S. — Dept of Zool., Presidency Coll., College St, CALCUTTA 12, India
- a. Cellular factors in kidney development. *Gallus gallus* (*Aves*)
- MIYAMORI-YAMAMOTO, Mrs H. M.Sc. — Lab. Exper. Embryol., Inst. of Polytechn., Osaka City Univ., Minami-Ogimati, Kita-ku, OSAKA, Japan
- MOFFETT, Jr, B.C. A.B. (Zool.), Ph.D. (Anat.) — Dept of Anat., Schools of Med. and Dent., Univ. of Alabama Med. Center, 620 South 20th St, BIRMINGHAM 5, Alabama, U.S.A.
- a. Embryology of the temporomandibular joint. *Rattus norvegicus* (*Rodentia*), *Homo sapiens* (*Primates*)
 - b. Embryological development of synovial cavities. *Rattus norvegicus*
- MOGHE, M. A. Dr — Zool. Dept, Univ. of Poona, POONA, India
- MOHSEN, Th. Dr V. — Lab. de Zool. et d'Embryol. expér., Inst. de Zool. et de Biol. génér., 12 Rue de l'Université, STRASBOURG, France
- a. Morphogénèse des gonades et du tractus génital. (*Selachii*, *Teleostei*) (en collaboration avec J. H. VIVIEN et J. J. THIEBOLD)
- MOLL, J. Dr Med. — Anat.-Embryol. Lab. der Rijks Univ., Oostersingel 69, GRONINGEN, Holland
- (no embryological work in progress)
- MOMENT, G. B. A.B., Ph.D. — Goucher College, BALTIMORE 4, Md, U.S.A.
- a. Relationship of method of healing and of the nervous system including neurosecretory tissue to posterior regeneration. *Eisenia foetida* (*Oligochaeta*)
 - b. Influence of mass of tissue on growth. *Ambystoma punctatum* (*Urodela*)
 - c. Influence of radiation on amount of regeneration. *Eisenia foetida* (*Oligochaeta*)
- MONNÉ, L. Phil.Dr. — Statens Veterinärmedic. Anstalt, Dept of Parasitol., STOCKHOLM 50, Sweden
- a. Life cycles and developmental physiology of parasitic worms. (*Nematoda*)
- MONROY, A. M.D., M.I.I.E., Prof. — Ist. di Anat. Comp., Univ. di Palermo, Via Archirafi 18, PALERMO, Italia
- a. Studies on the mitochondria of the egg during early development. *Paracentrotus lividus* (*Echinoidea*)
- MOOG, Miss F. Ph.D., M.I.I.E., Prof. — Dept of Zool., Washington Univ., Lindell and Skinker Av., ST LOUIS 5, Mo., U.S.A.
- a. Development of enzyme systems in the embryo. *Gallus domesticus* (*Aves*), (*Mammalia*)
 - b. Role of the pituitary-adrenal axis in fetal and juvenile development. (*Aves*, *Mammalia*)

Moo-Mul

- MOOKERJEE, S. M.Sc., Ph.D., Prof. — Dept of Zool., Presidency Coll., College St, CALCUTTA 12, India
- Effects of chemical transport in morphogenesis. *Amoeba* spec. (*Protozoa*) (in collaboration with B. HAJRA, L. WAIDYASEKARA and Miss M. G. ALAMELU)
 - Cell transplantation and isolation. *Hydra* spec. (*Coelenterata*) (in collaboration with S. SANYAL, S. N. NAGARAJAN and A. SINHA)
 - Physiology of cell-contact. (*Porifera*) (in collaboration with B. GANGULY and Miss M. CHOWDHURY)
 - Cellular factors in morphogenesis. *Gallus gallus* (*Aves*), (*Amphibia*) (in collaboration with S. ADHIKARI, K. BALASUBRAMANIAM, Miss B. NURJAHAN and Miss A. BOSE)
- MOORE, A. R. Ph.D., Prof. — Hopkins Marine Station, PACIFIC GROVE, Cal., U.S.A.
- On the structure of the pluteus. *Strongylocentrotus purpuratus* (*Echinoidea*)
 - Hybridization. (*Centroidea*, *Echinoidea*)
 - Teratology of plutei. (*Centroidea*, *Echinoidea*)
- MOORE, Mrs B. CLARK A.B., A.M., Ph.D. — Dept of Zool., Columbia Univ., Broadway and 116th St, NEW YORK 27, N.Y., U.S.A.
- Further studies of nucleoproteins in development. Photometric analysis of nuclear proteins in lethal diploid and androgenetic hybrid embryos. *Rana pipiens*, *Rana sylvatica* (*Anura*)
 - A comparison of the DNA content per nucleus in different species. (*Anura*)
- MOORE, J. A. A.B., M.A., Ph.D., M.I.I.E., Prof. — Dept of Zool., Columbia Univ., Broadway and 116th St, NEW YORK 27, N.Y., U.S.A.
- Transplantation of nuclei. (*Anura*)
 - Embryology. Australian spp. (*Anura*)
 - Gastrula ectoderm competence and dorsal lip potency in hybrid embryos tested by xenoplastic and heteroplastic transplantations to diploid hosts. *Rana pipiens* ♀ × *Rana clamitans* ♂ (*Anura*)
- MORGAN, Miss J. A. B.Sc. — Dept of Zool., Univ. of New England, ARMIDALE, N.S.W., Australia
- Regeneration and metamorphosis of cerci. *Blattella germanica* L. (*Dictyoptera*, *Insecta*) (in collaboration with A. STOCK and A. F. O'FARRELL)
- MORI, H. M. A., Dr Agri., Prof. — Biol. Lab., Keio Univ., YOKOHAMA, Hiyoshi, Japan
- Insecticide action on eggs, larvae and adults. (*Insecta*)
- MORI, Y. M.A., Prof. — Biol. Lab., Keio Univ., YOKOHAMA, Hiyoshi, Japan
- On the cause of disappearance of cutaneous melanophores of young animals. *Carassius auratus* (*Teleostei*)
 - Morphological and chemical studies of pigment formation in various species. (*Pisces*)
- MORICARD, R. Dr en Med., Dr ès Sci. — Lab. d'Hormonol. et Cytol. Expér., Ecole pratique des Hautes Etudes, Hopital Broca, 111, Rue L. M. Nordmann, PARIS XIII, France

- a. Etude de la méiose, de la fécondation, de la migration de l'oeuf dans les voix génitales. *Oryctolagus cuniculus* (*Lagomorpha*)
- b. Etude de la fécondation, de la migration de l'oeuf dans la trompe de Fallope, à l'aide du ^{35}S utilisé sous forme de $^{35}\text{SO}_4\text{Na}_2$ ou de cystine. *Oryctolagus cuniculus* (*Lagomorpha*) (en collaboration avec Miss M. M. C. S. GOTHIE)
- c. Etude de la fécondation *in vitro*; réalisation d'un film sur la fécondation. *Oryctolagus cuniculus* (*Lagomorpha*)
- d. Etude des sécrétions cervicales, utérines et tubaires, en rapport avec les phénomènes de l'ascension spermatique, de la fécondation, de la segmentation, et de la nidation. *Oryctolagus cuniculus* (*Lagomorpha*) (en collaboration avec Miss M. M. C. S. GOTHIE et J. BELAISCH)
- e. Décoloration du dichlorophenol indophenol (DPIP) par l'ovocyte. Etude par micro-injection quantitative. *Mus musculus* (*Rodentia*) (en collaboration avec Miss M. M. C. S. GOTHIE et O. BAIOCCHI)
- MORRIS, I. G. B.Sc., Ph.D. — Agr. Res. Council Unit of Embryol., Dept of Zool., Univ. Coll. of North Wales, BANGOR, Caernarvonshire, N. Wales
- a. Immunological relations of mother and young. (*Mammalia*)
- MOSSMAN, H. W. B.S., M.S., Ph.D., M.I.I.E., Prof. — Dept of Anat., Bardeen Med. Labs, Univ. of Wisconsin, MADISON 6, Wis., U.S.A.
- a. Comparative morphology of the fetal membranes and reproductive tracts. (*Mammalia*)
- MOSZKOWSKA, A. Dr ès Sci. — Lab. d'Histophysiol., Coll. de France, Place Marcelin Berthelot, PARIS Ve, France
- a. Culture d'organes embryonnaires (gonades, hypophyse, épiphyse). (*Aves*)
- MOTOMURA, I. Dr Sc., Prof. — Lab. of Embryol., Inst. of Biol., Tohoku (Imperial) Univ., SENDAI, Japan
- MOURSÍ, A. A. B.Sc., M.Sc. — Dept of Zool., Alexandria Univ., Moharram Bey, ALEXANDRIA, Egypt
- a. The ontogenesis of the vertebral column. *Bufo regularis* (*Anura*) (in collaboration with S. N. SEDRA)
- MUCHMORE, W. B. Ph.D. — Dept of Biol., Coll. of Arts and Sci., Univ. of Rochester, ROCHESTER 20, N.Y., U.S.A.
- a. Early differentiation of trunk mesoderm. *Ambystoma maculatum* (*Urodela*)
- b. Immunochemical study of muscle development. *Ambystoma spec.* (*Urodela*)
- MUIR, A. R. M.B., Ch.B., M.D. — Dept of Anat., Univ. of Edinburgh, Univ. New Buildings, Tevist Row, EDINBURGH 8, Scotland
- a. Development of myocardium with special reference to the conducting tissue. *Rattus domesticus* (*Rodentia*)
- b. Electron microscope studies of differentiating mesoderm with special reference to muscular and haemopoetic tissues. *Rattus domesticus* (*Rodentia*)
- MULLIGAN, W. J. M.D. — Free Hospital for Women, 245 Pond Ave. BROOKLINE, Mass., U.S.A.
- a. Histochemical observations on early fertilized ova of less than 14 days age. *Homo sapiens* (*Primates*) (in collaboration with A. T. HERTIG, J. ROCK and Miss E. C. ADAMS)

- MULNARD, J. O. M.D., M.I.I.E. — Lab. d'Anat. et d'Embryol., Fac. de Méd. de l'Univ., 97 Rue aux Laines, BRUXELLES, Belgique
- Appearance of enzymes, mainly alkaline phosphatase, in the development. (*Rodentia*)
 - Metachromasia in vivo in the developing egg, and cytochemical analysis of cytoplasmic granulations in relation to metachromasia. *Chaetopterus* spec. (*Polychaeta*), *Arbacia* spec. (*Echinoidea*)
- MUN, A. M. — Dept of Zool., Indiana Univ., BLOOMINGTON, Ind., U.S.A.
- MURAKAMI, U. M.D., D.Med.Sci. — Res. Inst. of Environmental Med., Nagoya Univ., Furo-cho, Chikusa-ku, NAGOYA, Japan
- Study on the manifestation of common pathological changes observed in early stages of developing malformations of the central nervous system. *Mus musculus* (*Rodentia*)
- MURATORI, G. Dr Med., o.Prof. — Ist. Anat., Univ. di Ferrara, Via Fossato di Mortara 66, FERRARA, Italia
- Histochemical characteristics of the development of the joints in the normal embryo and in organ-cultures. *Gallus domesticus* (*Aves*)
 - Histochemical characteristics of the development of the arteries in the normal embryo and in organ-cultures. *Gallus domesticus* (*Aves*)
- MURRAY, P. D. F. M.A., D.Sc., F.I.I.E. Prof. — Dept of Zool., Univ. of Sydney, SYDNEY, N.S.W., Australi.
- NACE, G. W. A.B., M.A., Ph.D. — Dept of Zool., Univ. of Mich., ANN ARBOR, Mich., U.S.A.
- Serological and electrophoretic study of proteins of the embryo. *Rana pipiens* (*Anura*)
 - Study of development in the presence of antibodies against embryonic proteins. *Rana pipiens* (*Anura*)
 - Immuno-histologic analysis of development using fluorescent antibody. *Rana pipiens* (*Anura*)
- NAGARAJAN, S. N. M.Sc. — Dept of Zool., Presidency Coll., College St. CALCUTTA 12, India
- Regeneration experiments. *Hydra* spec. (*Coelenterata*)
 - Cell transplantation and isolation. *Hydra* spec. (*Coelenterata*) (in collaboration with S. MOOKERJEE)
- NAKAMURA, O. D.Sc., Prof. — Lab. of Morphol., Osaka Lib. Arts Univ., IKEDA, Osaka-Pref., Japan
- Map of presumptive regions and formative movements. *Triturus* spec., *Hynobius* spec., *Rana* spec. (*Amphibia*)
 - Experimental analysis of development of tail. *Triturus* spec. (*Amphibia*)
 - Formation of digestive tract. *Rana* spec., *Triturus* spec. (*Amphibia*)
 - Interaction of germ layers in differentiation and shaping. *Triturus* spec., *Rana* spec. (*Amphibia*)
- NAKANE, T. M.Sc. — Biol. Lab., Saikyo Univ., Shimogamo, KYOTO, Japan
- Embryology. (*Coleoptera*)
- NAKANO, E. M.A., Dr Sci. — Biol. Inst., Fac. of Sci., Nagoya Univ., Chigusa-Ku, NAGOYA, Japan
- Physiological studies on fertilization and development. *Paracentrotus lividus*, *Hemicentrotus pulcherrimus* (*Echinoidea*), *Oryzias latipes* (*Teleostei*)

b. Metabolic analysis of early development. *Oryzias latipes* (Teleostei) (in collaboration with T. HISHIDA)

NAKAYAMA, T. M.B., M.D. — Anat. Inst., Med. Fac., Nihon Univ., No. 724, Ooyaguchi-machi, Itabashi-ku, TOKYO, Japan

NAPP, M. B.A., M.Sc. — Long Island Univ., 385 Flatbush Avenue Extension, BROOKLYN, N.Y., U.S.A.

NAYLOR, E. B.Sc., Ph.D. — Dept of Zool., Univ. Coll. of Swansea, Singleton Park, SWANSEA, Glamorganshire, Wales

a. Determination of asymmetry in development and regeneration of the operculum. *Hydroides norvegica* (Polychaeta)

NEEDHAM, A. E. M.A., D.Sc. — Dept of Zool. and Comp. Anat., The Univ. Museum, OXFORD, England

a. Nitrogen excretion during wound-healing and regeneration. *Lumbricus terrestris*, *Eisenia foetida*, *Allolobophora caliginosa* (Oligochaeta)

NEEDHAM, J. Dr, F.I.I.E., Prof. — Gonville and Caius Coll., CAMBRIDGE, England

NEF, W. — Abt. f. Genet., Zool. Inst. der Univ. Bern, Sahlistr. 8, BERN, Schweiz

a. Entwicklungsphysiologie einer Flügel-Borsten-Mutante. *Drosophila spec.* (Diptera) (in Zusammenarbeit mit S. ROSIN)

NEWBY, W. W. Ph.D. (Stanford Univ., 1939) — Dept of Genetics and Cytology, Div. of Biol., Univ. of Utah, SALT LAKE CITY, Utah, U.S.A.

NEWTN, D. R. B.Sc., Ph.D., M.I.I.E. — Dept of Zool. and Comp. Anat., Univ. Coll. London, Gower St, LONDON W.C. 1, England

a. Regeneration of defective organs. (Amphibia)

NEWTON, B. L. B.A., M.D.C.M. — Dept of Pathol., Coll. of Med., Baylor Univ., 1200 M.D. Anderson Blvd, Texas Med. Center, HOUSTON 5, Tex., U.S.A.

(no embryological work in progress)

NICHOLAS, J. S. Ph.D., F.I.I.E., Prof. — Osborn Zool. Lab., Yale Univ., NEW HAVEN 11, Conn., U.S.A.

a. Studies on the egg. *Mus norvegicus* (Rodentia)

b. Determination times of tissues and organs. *Mus norvegicus* (Rodentia)

c. Factors underlying embryonic form.

d. Development of nucleic acids in embryos. (Amphibia), *Mus norvegicus* (Rodentia)

e. Development of acidphosphatase. (Amphibia), *Mus norvegicus* (Rodentia)

f. Centrifugation and transplantation of eggs. *Mus norvegicus* (Rodentia)

g. Culture of eggs and embryos. *Mus norvegicus* (Rodentia)

h. Heteroplastic grafting. *Gallus gallus* (Aves) (host), *Mus norvegicus* (Rodentia) (donor)

j. Coelomic studies of differentiation. *Mus norvegicus* (Rodentia)

k. Study of the forces engaged in cleavage.

NICOLA, Miss M. DE Dr Sci. — Centro di Studio per la Biol. del C.N.R., Stazione Zool., NAPOLI, Italia

NIESSING, K. Dr med., o.Prof. — Anat. Inst. der Univ., Robert Kochstr. 6, MARBURG/Lahn, Deutschland

(no embryological work in progress)

NIEUWKOOP, P. D. Phil.Dr, M.I.I.E. — Hubrecht Lab., Intern. Embryol. Inst., Janskerkhof 2, UTRECHT, Holland

- a. Quantitative analysis of the competence of ectoderm during normal development with fold implantation technique. *Ambystoma mexicanum* (*Urodela*)
 - b. Quantitative analysis of propagation of inductive action through competent ectoderm. *Ambystoma mexicanum* (*Urodela*)
 - c. Analysis of neural induction under normal and experimental conditions with time lapse photography. (*Amphibia*)
- NIIZIMA, M. M.D., Ph.D. — Dept of Anat., Tokyo Med. and Dent. Univ., Yushima 3, Bunkyo-ku, TOKYO, Japan
- a. Tissue culture studies on the development of dental tissues. *Homo sapiens*, *Felis domestica* (*Mammalia*)
 - b. Tissue culture studies on metamorphosis. (*Amphibia*)
- NIJENHUIS, E. D. M.Sc. — Zool. Lab. der Rijks Univ., Janskerkhof 3, UTRECHT, Holland
- a. Analysis of the phase specificity in the sensitivity of the egg to Li-ions. *Limnaea stagnalis* (*Gastropoda*)
 - b. Autoradiographic localization of kations in eggs. *Limnaea stagnalis* (*Gastropoda*)
 - c. Time course of mitotic processes during early cleavage stages. *Limnaea stagnalis* (*Gastropoda*)
- NISHIITSUTSUJI—UWO, Mrs J. — Lab. of Embryol. and Exper. Morphol., Zool. Inst., Dept of Sci., Kyoto Univ., KYOTO, Japan
- a. Hormonal mechanism of metamorphosis. *Bombyx mori*, *Luehdorfia japonica*, *Philosamia cynthia ricini* (*Lepidoptera*) (in collaboration with M. ICHIKAWA)
- NIU, M. C. Dr. M.I.I.E. — Rockefeller Inst. for Med. Research, 66th St and York Ave, NEW YORK 21, N.Y., U.S.A.
- NOBILI, R. — Ist. di Zool. e Anat. comp. dell'Univ., Via A. Volta 4, PISA, Italia
- a. Reproduction. (*Tricladidea*, *Turbellaria*)
- NORBERG, O. V. O.Dr, Prof. — Dept of Histol., Karolinska Inst., Solnavägen 1, STOCKHOLM 60, Sweden
- a. The postnatal evolution of the lower jaw. *Homo sapiens* (*Primates*)
- NORMAN, C. Ph.D. — Dept of Anat., School of Med., Univ. of West Virginia, MORGANTOWN, W.Va, U.S.A.
- a. The intracellular distribution of sulfhydryl groups in embryonic, adult and tumorous tissues. *Rana pipiens* (*Anura*)
- NOWAKÓWNA, Miss J. M.Ph. — Zakład Zool. Ogólnej, Inst. Zool., Univ. we Wrocławiu, ul. Sienkiewicza 21, WROCŁAW, Poland
- a. The morphogenetical functions of the thyroid gland and hypophysis. (*Amphibia*, *Reptilia*, *Aves*)
 - b. Pigmentation and the endocrine glands. (*Amphibia*)
- NÜESCH, H. D.Sc., Prof. — Zool. Anstalt der Univ., Rheinsprung 9, BASEL, Schweiz
- a. Einfluss des Nervensystems auf die Entwicklung anderer Organe. *Telega polyphemus* (*Saturniidae*, *Lepidoptera*)
 - b. Entwicklung der imaginalen Muskeln. (*Neuroptera*, *Lepidoptera*)
 - c. Entwicklung des Nervensystems. (*Insecta*)
- NUMANOI, H. Ph.D. — Biol. Inst., Coll. of Gener. Education, Univ. of Tokyo, TOKYO, Japan

- a. Biochemical study of fertilization substances, with special reference to the physiology of polyphenol sulfate and choline derivatives. (*Echinoidea*)
 NURJAHAN, Miss Begum B.Sc.(Hons) — Dept of Zool., Presidency Coll., College St, CALCUTTA 12, India
- a. Cellular factors in morphogenesis. *Gallus gallus* (*Aves*) (in collaboration with S. MOOKERJEE)
- NYHOLM, K. G. Fil.Dr — Zool. Inst., Uppsala Univ., UPPSALA, Sweden
- a. Study of the development. (*Echinoderidae*, *Aschelminthes*)
 b. Study of the life-history. (*Rhizopoda monothalamia*)
- OBICA, M. M.A. — Biol. Lab., Keio Univ., YOKOHAMA, Hiyoshi, Japan
- a. Correlation between pigment formation and pterin derivatives during development. (*Amphibia*)
- O'BRIEN, B. R. A. B.Sc., Ph.D. — Dept of Histol. and Embryol., Univ. of Sydney, SYDNEY, N.S.W., Australia
- O'BRIEN, J. P. Ph.D. — Dept of Biol., Marquette Univ., 1217 West Wisconsin Ave, MILWAUKEE 3, Wis., U.S.A.
- a. Regression of larval and adult limb and tail following exposure to X-rays or denervation. *Triturus viridescens*, *Ambystoma punctatum* (*Urodela*)
 b. Spindle-cell sarcoma of adult animals. *Triturus viridescens*, *Ambystoma punctatum* (*Urodela*)
 c. Radiosensitivity in relation to temperature prevailing during exposure. *Rana catesbiana*, *Rana pipiens*, *Triturus viridescens* (*Amphibia*), *Mus rattus*, *Lepus americanus* (*Rodentia*)
 d. Irradiation of solely the circulating blood. (*Vertebrata*)
- O'CONNOR, R. J. M.D., D.T.M. — Research Labs, Westminster Med. School, Udall St, Vincent Square, LONDON S.W. 1, England
- a. Growth and regeneration of alimentary mucosa. (*Mammalia*)
 b. Culture of embryonic cells: their metabolic requirements compared with cancer cells. (*Aves*, *Mammalia*)
- ODOR, Miss D. L. M.S., Ph.D. — School of Med., Univ. of Washington, SEATTLE 5, Wash., U.S.A.
- O'FARRELL, A. F. B.Sc., ARCS — Dept of Zool., Univ. of New England, ARMIDALE, N.S.W., Australia
- a. Regeneration and the endocrine system. *Blattella germanica* (*Dictyoptera*, *Insecta*) (in collaboration with A. STOCK and Miss J. MORGAN)
- OIKAWA, Miss I. B.Sc. — Fac. of Education, Kōchi Univ., KOCHI, Japan
- OKA, H. Ph.D. (Tokyo), Prof. — Inst. of Zool., Univ. of Education, Otsuka-Kubomachi 24, Bunkyo-ku, TOKYO, Japan
- OKADA, E. — Inst. of Animal Genet., Univ. Dept of Genet., King's Buildings, West Mains Rd, EDINBURGH 9, Scotland
- a. Electron microscope studies of gene action (in collaboration with C. H. WADDINGTON and Miss M. M. PERRY).
- OKADA, K. D.Sc., Prof. — Biol. Inst., Gakugei Fac., Tokushima Univ., TOKUSHIMA, Japan
- OKADA, T. S. — Lab. of Embryol. and Exper. Morphol., Zool. Inst., Dept of Sci., Kyoto Univ., KYOTO, Japan
 — Inst. of Animal Genet., Univ. Dept of Genet., King's Buildings, West Mains Rd, EDINBURGH 9, Scotland
- a. Differentiation of cartilage. (*Amphibia*), *Mus musculus* (*Rodentia*) (in collaboration with C. H. WADDINGTON)

- OKADA, Y. K. M.J.A., Dr. F.I.I.E., Prof. — Nat. Mus. of Nat. Sci., Ueno-Park, Daito-ku, TOKYO, Japan
- OKANO, H. M.Sc. — Dept of Biol., Fac. of Sci., Kyushu Univ., FUKUOKA, Japan
- a. Artificial modification of developmental fate of various embryonic tissues. *Triturus spec. (Urodela)*
 - b. Electron microscopy of developing tissues. *Triturus spec. (Urodela)*
- OKAZAKI, Miss K. — Embryol. Section, Dept of Biol., Tokyo Metropolitan Univ., Setagaya-ku, TOKYO, Japan
- a. A study of skeleton formation. (*Echinodermata*)
 - b. Mechanism of gastrulation. (*Echinoidea*)
 - c. Acceleration of metamorphosis. (*Echinoidea*)
- OKAZAKI, R. M.A. — Biol. Inst., Fac. of Sci., Nagoya Univ., Chigusa-Ku, NAGOYA, Japan
- a. Nucleic acid metabolism and cell multiplication during early development. (*Echinodermata, Amphibia, Aves*) (in collaboration with Mrs T. OKAZAKI and Y. KURIKI)
 - b. Nucleic acid metabolism and cell multiplication in micro-organisms. (*Ciliata, Bacteria*) (in collaboration with Mrs T. OKAZAKI)
- OKAZAKI, Mrs T. M.A. — Biol. Inst., Fac. of Sci., Nagoya Univ., Chigusa-Ku, NAGOYA, Japan
- a. Nucleic acid metabolism and cell multiplication during early development. (*Echinodermata, Amphibia, Aves*) (in collaboration with R. OKAZAKI and Y. KURIKI)
 - b. Nucleic acid metabolism and cell multiplication in micro-organisms. (*Ciliata, Bacteria*) (in collaboration with R. OKAZAKI)
- OKSCHE, A. A. Dr med. — Anat. Inst. der Univ., Robert Kochstr. 6, MARBURG/Lahn, Deutschland
- a. Änderungen des Kaulquappen-Wachstums nach beiderseitiger Augen-Extirpation. Es soll hierbei die Rolle des Hypophysen-Zwischenhirn-Systems und der Epiphyse untersucht werden. *Xenopus laevis (Anura)*
 - b. Die Feinstruktur der Sinneszellen des Organon frontale bei qualitativ und quantitativ modifiziertem Lichtreiz. Verhalten der spezifischen, mit Eisen-Haemotaxylin färbbaren Zellstrukturen während des Individualzyklus. *Bufo vulgaris (Larven), Rana temporaria, Xenopus laevis (Anura)*
 - c. Individualzyklische Entwicklung der Sekretion im Subcommissural-organ. Entwicklung der Nerven- und Gefässverbindungen der Organe des Zwischenhirndachs. Klärung der Funktion. (*Vertebrata*)
- OLBRICH, E. Dr med. — Histol.-Embryol. Inst. der Univ., Müllerstr. 59, INNSBRUCK, Tyrol. Oesterreich
- a. Morphomechanik.
- OLIVER, C. P. — Dept of Zool., Univ. of Texas, AUSTIN 12, Texas, U.S.A. (no embryological work in progress)
- OLIVIER, G. H. G. Prof. — Lab. d'Anat., Fac. de Méd. de Paris, 45 Rue des Sts Pères, PARIS VIe, France
- a. Développement du plexus brachial. *Homo sapiens (Primates)* (en collaboration avec R. FENART)
 - b. Développement du sympathique cervical. *Homo sapiens (Primates)* (en collaboration avec J. L. TARNUS)

- c. Embryologie et croissance du squelette des membres. *Homo sapiens* (*Primates*) (en collaboration avec H. PINEAU)
- OLSSON, R. Fil.lic. — Zootom. Inst., Univ. of Stockholm, 70A Rådmsgatan, STOCKHOLM, Sweden
- a. Development of nuclei and fibres in the brain. *Polypterus* spec. (*Brachiopterygii*)
- b. Development of Reissner's fibre and the infundibular and subcommissural organs. *Branchiostoma* spec. (*Cephalochordata*). (several *Vertebrata*)
- c. Development of the epithalamus. (*Brachiopterygii*)
- OMODEO, P. Dr Sci. — Ist. di Biol. e Zool. gen., Fac. di Med., Piazza S. Agostino 4, SIENA, Italia
- OPPENHEIMER, Miss J. M. B.A., Ph.D., M.I.I.E. — Dept of Biol., Bryn Mawr Coll., BRYN MAWR, Pa, U.S.A.
- a. Experimental analysis of regional determination within the brain. *Fundulus heteroclitus* (*Teleostei*)
- b. Differentiation of extra-embryonic grafts. *Fundulus heteroclitus* (*Teleostei*)
- O'RAHILLY, R. M.Sc., M.D., Prof. — Dept of Anat., Coll. of Med., Wayne State Univ., DETROIT 7, Mich., U.S.A.
- a. Morphogenesis and developmental histochemistry of embryonic eye. *Gallus domesticus* (*Aves*) (in collaboration with D. B. MEYER)
- b. Development of skeleton and joints of foot in embryo and fetus. *Homo sapiens* (*Primates*) (in collaboration with E. GARDNER and D. J. GRAY)
- ORSINI, Mrs M. C. WARD B.A., Ph.D. — Dept of Anat., Bardeen Med. Labs, Univ. of Wisconsin, MADISON 6, Wis., U.S.A.
- a. Fetal membranes, giant cells, and pregnancy changes in uterine vessels. *Cricetus auratus* (*Rodentia*)
- ORSKA, Miss J. Ph.D. — Zakład Anat. Porównawczej, Inst. Zool. Uniw., ul. Sienkiewicza 21, WROCLAW, Poland
- a. Development of the vertebral column centra. (*Salmonidae*, *Teleostei*)
- b. Influence of temperature on development of axial skeleton. (*Teleostei*)
- ORTOLANI, Miss G. Dr — Ist. di Zool., Via Archirafi 18, PALERMO, Italia
- a. Experiments on merogony. (*Ascidaceae*)
- ORTS LLORCA, F. M.I.I.E., Prof. — Lab. de Anat. y Embryol., Fac. de Med., Ciudad Univ., MADRID, Spain
- OSAWA, S. M.A. — Biol. Inst., Fac. of Sci., Nagoya Univ., Chigusa-Ku, NAGOYA, Japan
- a. Isolation of the bone marrow factor, which is responsible for induction of mesodermal structures in the ectoderm of the gastrula. (*Amphibia*, *Mammalia*) (in collaboration with K. TAKATA and T. YAMADA)
- b. Studies on the ribonucleoproteins isolated from various tissues. (*Mammalia*) (in collaboration with K. TAKATA)
- OVER, H. J. B.Sc. — Hubrecht Lab., Intern. Embryol. Inst., Janskerkhof 2, UTRECHT, Holland
- a. Search for species-specific histo- and cytological characteristics in early development. Representatives of various groups (*Aves*)
- OVERTON, Mrs J. Dr — Dept of Zool., Univ. of Chicago, CHICAGO 37, Ill., U.S.A.
- OZBURN, R. H. Prof. — Dept of Entomol. and Zool., Ontario Agricultural Coll., GUELPH, Ont., Canada

- PACKER, A. D. — Dept of Anat., Univ. of Adelaide. ADELAIDE, S. Australia
- PADOA, E. Dr. Prof. — Ist. di Zool., Fac. di Sci., Via Romana 17, FIRENZE, Italia
- PADYKULA, Miss H. A. B.S., M.A., Ph.D. — Dept of Anat., Harvard Med. School, 25 Shattuck Str., BOSTON 15, Mass., U.S.A.
- PAI, S. Dr rer. nat., F.I.I.E. — Lab. of Developm. Physiol., Inst. of Exper. Biol., Acad. Sinica, 865 Chang Ning Rd, SHANGHAI, China
- PANTELOURIS, E. M. B.Sc., Ph.D. — Inst. of Animal Genet., Univ. Dept of Genet., King's Buildings, West Mains Rd. EDINBURGH 9, Scotland
- Ovary transplants for detection of host effects on growth, and of transfer of specific molecules. *Drosophila spec. (Diptera)*
 - Tests for specific molecule transfers. *Mus musculus (Rodentia)*
- PAPI, F. Prof. — Ist. di Zool. e Anat. comp. dell'Univ., Via A. Volta 4, PISA, Italia
- Reproduction and cytology. (*Rhabdocoela. Turbellaria*)
- PARRANT, M. Dr en Méd. — Lab. d'Embryol., Fac. de Méd., 45 Rue des Sts Péres, PARIS VIe, France
- Développement du système dentaire. *Homo sapiens (Primates)*
- PASCHMA, M. M.Ph. — Zakład Zool. Ogólnej, Inst. Zool., Univ. we Wrocławiu, ul. Sienkiewicza 21, WROCŁAW, Poland
- Normal development. (*Enchytraeidae, Oligochaeta*)
- PASQUINI, P. Ph.D., M.I.I.E., Prof. — Ist. di Zool., Via S. Giacomo 9, BOLOGNA, Italia
- Effects of antimetabolites on early development and on lens-regeneration. *Rana esculenta. Triton spec., Ambystoma spec. (Amphibia)* (in collaboration with Mrs I. MAZZONI—DE CESARE)
 - Effects of antimetabolites on the regeneration of peripheral nerves. (*Amphibia*) (in collaboration with S. LEGHISSA)
 - Effects of low temperature on early development. (*Amphibia*) (in collaboration with E. MANELLI)
- PASTEELS, J. M.D., F.I.I.E., Prof. — Lab. d'Anat. et d'Embryol., Fac. de Méd. de l'Univ., 97 Rue aux Laines, BRUXELLES, Belgique
- General survey of development. *Chrysemis spec., Pseudemys spec., Chelone spec. (Chelonia), Chamaeleo spec., Mabuya spec. (Sauria)*
 - Cytochemical observations on first development. (*Mollusca: Echinoidea*)
 - Metachromasia in eggs in vivo. (*Vertebrata*)
 - Electron-microscopical analysis of eggs. *Paracentrotus spec. (Echinoidea)*
- PATTEN, B. M. Ph.D., Prof. — Dept of Anat., Med. School, Univ. of Michigan, 2500 East Med. Bldg. ANN ARBOR, Mich., U.S.A.
- PEDERSEN, K. J. M.Sc. — Inst. for Alm. Zool., Universitetsparken 3, COPENHAGEN O, Denmark
- Biochemistry of regeneration processes. (*Planariidae, Plathelminthes*)
- PEHRSON, G. T. Dr Phil., Prof. — Zootom. Inst., Univ. of Stockholm, Rådmanngatan 70A, STOCKHOLM, Sweden
- Development and morphology of the skull and of the lateralis system. (*Osteoglossidae and Characinidae, Teleostei*)
 - Ontogeny of the skull. *Polypterus spec. (Crossopterygii)*

- PEPPER, Miss F. J. B.Sc., Ph.D. — Dept of Zool. and Comp. Physiol., Birmingham Univ., Edgbaston, BIRMINGHAM 15, England
(no embryological work in progress)
- PERCIVAL, E. B.Sc. — Dept of Zool. Canterbury Univ. Coll., CHRIST-CHURCH, New Zealand
- a. Embryology. *Tegulorhynchia nigricans* (*Brachiopoda*)
- PERLMANN, H. P. — Wenner-Grens Inst. for exper. Biol., Norrtullsgatan 16, STOCKHOLM Va., Sweden
- a. Serological study of proteins during early development. *Paracentrotus lividus* (*Echinodermata*) (in collaboration with Mrs J. C. KALTENBACH, Evanston, Ill., U.S.A.)
- PERRI, T. Dott., M.I.I.E., Prof. — Ist. di Anat. Comp. dell'Univ., Fac. di Sci., Via Borelli 50, ROMA, Italia
- PERRY, Miss M. M. — Inst. of Animal Genet., Univ. Dept of Genet., King's Buildings, West Mains Rd, EDINBURGH 9, Scotland
- a. Electron microscope studies of gene action (in collaboration with C. H. WADDINGTON and E. OKADA)
- b. Study of certain features of developing embryos using electronmicrographs of ultrathin sections and cytochemical techniques. *Drosophila melanogaster* (*Diptera*), (*Amphibia*) (in collaboration with C. H. WADDINGTON and G. G. SELMAN)
- c. Developmental effects of metabolic antagonists. (*Evertebrata*, *Vertebrata*) (in collaboration with C. H. WADDINGTON and F. BILLET)
- PERSSON, H. Fil.mag. — Zoophysiol. Inst., Univ. of Lund, LUND, Sweden
- PESONEN, S. K. Ph.D. — Zool. Lab., Univ. of Helsinki, P. Rautatiekatu 13, HELSINKI, Finland
(no embryological work in progress)
- PETERS, Th. Dr med. — Heiligenberg-Inst., (17b) HEILIGENBERG, Kreis Ueberlingen/Bodensee, Deutschland
- a. Einfluss der Röntgenstrahlen auf die Entwicklung. (*Urodela*)
- PETRY, G. Dr med., Prof. — Anat. Inst. der Univ., Robert Kochstr. 6, MARBURG/Lahn, Deutschland
- a. Funktionelle Histologie der Eihäute. (*Mammalia*)
- PFLUGFELDER, O. Dr rer.nat., Prof. — Zool. Inst. der Landwirtschaftl. Hochschule, STUTTGART-HOHENHEIM, Deutschland
- a. Änderung des Stoffwechsels nach Störung des hormonalen Gleichgewichts. (*Insecta*)
- b. Entwicklungsphysiologie von Schwanzmissbildungen. (*Teleostei*, *Aves*)
- c. Einfluss der Pinealektomie auf die Postembryonalentwicklung. *Lebistes reticulatus* (*Teleostei*), (*Amphibia*, *Sauropsida*)
- d. Entwicklung. (*Acari*, *Arachnoidea*)
- e. Histophysiologie der Corpora cardiaca. (*Insecta*)
- PIATT, J. A.B., M.A., Ph.D. — Dept of Anat., School of Med., Univ. of Pennsylvania, PHILADELPHIA 4, Pa. U.S.A.
- PIEPHO, H. Dr Phil., Prof. — Zool. Inst. der Univ. Göttingen. Mathem.-Naturw. Fak., Bahnhofstr. 28, GÖTTINGEN, Deutschland
- PINCUS, G. Dr, Prof. — Worcester Foundation for Exper. Biol., 222 Maple Ave, SHREWSBURY, Mass., U.S.A.

Pincus-Ram

- a. Physiology of reproduction. (*Mammalia*)
 - b. Early development of eggs. (*Mammalia*)
- PINEAU, H. — Lab. d'Anat., Fac. de Méd. de Paris, 45 Rue des Sts Pères, PARIS VIe, France
- a. Embryologie et croissance du squelette des membres. *Homo sapiens* (*Primates*) (en collaboration avec G. H. G. OLIVIER)
- PLESNER, P. Dr phil. — Biol. Inst. of the Carlsberg Foundation, 16, Tagensvej, COPENHAGEN N, Denmark
- a. Studies on the biochemistry and physiology of synchronized cell systems. *Tetrahymena pyriformis* (*Holotricha, Ciliata*) (in collaboration with K. HAMBURGER and E. ZEUTHEN)
- PLETZEN, R. van D.Sc. — Dept of Zool., Univ. of O.F.S., BLOEMFONTEIN, South Africa
(no embryological work in progress)
- POHLEY, H.-J. Dr — Inst. für Entwicklungsphysiologie, Univ. zu Köln, Gyrhofstr. 17, KÖLN-LINDENTHAL, Deutschland
- a. Entwicklung der Flügel. Regeneration und Superregeneration der Flügelanlagen. Einwirkung der regenerierenden Anlagen auf den Zeitpunkt der Puppenhäutung. *Éphestia kühniella* Z. (*Lepidoptera*)
 - b. Einfluss der Antennenlänge auf das Wachstum der regenerierenden Antennen. Einfluss der Antennenlänge auf die Dauer der Larvenstadien. *Periplaneta americana* L. (*Orthoptera*)
- POLEZHAYEV, L. V. Dr Sci.Biol., F.I.I.E., Prof. — Inst. of Animal Morphol., of the Acad. of Sci. of the U.S.S.R., B. Kalushskaja 33, MOSCOW V-71, U.S.S.R.
- a. Regeneration of cranium bones. *Mus domesticus*, *Rattus norvegicus*, *Oryctolagus cuniculus*, *Felis domestica*, *Canis familiaris* (*Mammalia*)
 - b. Regenerative capacity and immunity in ontogenesis. *Rana temporaria*, *Bombina bombina* (*Anura*)
 - c. Regeneration of brain. *Felis domestica*, *Canis familiaris*, *Rattus norvegicus* (*Mammalia*)
- PORTMANN, A. Dr Phil., Prof. — Zool. Anstalt der Univ., Rheinsprung 9, BASEL, Schweiz
- a. Embryology and postembryonic development. (*Araneida*)
 - b. Embryology of the forebrain (including postembryonic stages). (*Aves*)
 - c. Development of skin pattern. (*Reptilia*)
- POULSON, D. F. B.S., Ph.D., Prof. — Osborn Zool. Lab., Yale Univ., NEW HAVEN 11, Conn., U.S.A.
- a. Mid-gut: genesis and differentiation. *Drosophila melanogaster* (*Diptera*)
 - b. Chromosomal control of differentiation. *Drosophila melanogaster* (*Diptera*)
 - c. Neurogenesis in normal and genetically deficient embryos. *Drosophila melanogaster* (*Diptera*)
 - d. Maternally inherited sex-ratio disturbances of development. *Drosophila melanogaster* (*Diptera*)
- PRETO PARVIS, Mrs V. Dott.Med., Prof. — Cattedra di Istol. ed Embriol. gener., Fac. di Med. e Chir. dell'Univ. di Milano, Via Mangiagalli 31, MILANO, Italia
- a. Nucleic acids and fatty substances in nervous cells during development. *Rattus norvegicus*, *Felis domestica*, *Cavia cobaya* (*Mammalia*)
 - b. Morphological and histochemical studies of histogenesis of mucous and

chondroid tissues. Mucous tissue of the embryo (gelatina cardiaca) and of the valves of the heart. *Gallus domesticus* (*Aves*)

c. Quantitative study about the pre- and postnatal increase of cerebellar cortex and of its different strata. *Felis domestica*, *Cavia cobaya*, *Rattus norvegicus* (*Mammalia*)

d. Modifications in the histochemical characters of squamous stratified epithelia during the development, in connection with the modifications of the external medium. Epidermis. *Rattus norvegicus* (*Rodentia*)

PRIESCHING, A. M.D. — Anat. Inst., Währingerstr. 13, WIEN 9, Oesterreich

a. Development of the pars dextra omenti. *Homo sapiens* (*Primates*)

PROP, N. B.Sc. — Anat.-Embryol. Lab. der Rijks Univ., Oostersingel 69, GRONINGEN, Holland

PUJIJULA, J., S. I. M.I.E., M.R.Ac.Med. — Inst. Biol. de Sarriá, Dr Amigant 14, BARCELONA, Sarriá, España

QUÉNU, L. Dr en Méd. — Lab. d'Anat., Fac. de Méd. de Paris, 45 Rue des Sts Pères, PARIS VIe, France

a. Développement de l'appareil respiratoire. *Homo sapiens* (*Primates*)

b. Développement du péritoine. *Homo sapiens* (*Primates*)

QUEREUX, P. Dr en Méd. — Lab. d'Anat., Fac. de Méd. de Paris, 45 Rue des Sts Pères, PARIS VIe, France

a. Développement du système bronchopulmonaire. *Homo sapiens* (*Primates*)

b. Développement de la cavité péritonéale. *Homo sapiens* (*Primates*)

QUERNER, H. Dr rer.nat. — Inst. f. exp. Krebsforschung der Univ. Heidelberg, Voss-Strasse 3, HEIDELBERG, Deutschland

a. Hormonphysiologische Untersuchungen. (*Cyprinodontidae*, *Teleostei*)

b. Differenzierung primärer und sekundärer Geschlechtsorgane in vitro. (*Cyprinodontidae*, *Teleostei*)

RADECKA, Mrs E. ERDMAN M.Ph. — Zakład Zool. Ogólnej, Inst. Zool., Uniw. we Wrocławiu, ul. Sienkiewicza 21, WROCŁAW, Poland

a. The morphogenetical functions of the thyroid gland and hypophysis. (*Amphibia*, *Reptilia*, *Aves*)

RAE—WICKHAM, Mrs C. A. B.Sc. — Dept of Zool., Univ. of New England, ARMIDALE, N.S.W., Australia

a. Endocrine organs and their developmental rôle. *Blattella germanica* L., *Periplaneta* spp. (*Dictyoptera*, *Insecta*)

RAMIREZ de ARELLANO, Miss M. I. R. B.S., M.S., Ph.D., M.B., M.D. — Lab. of Perinatal Physiol., NINDB, School of Med., SAN JUAN, P.R., U.S.A.

a. Effects of adverse factors in the perinatal period on the electroencephalogram of the fetus and infant. (*Rodentia*, *Primates*) (in collaboration with J. RANCK)

RAMSEY, Miss E. M. A.B., M.D. — Dept of Embryol., Carnegie Inst. of Washington, Wolfe and Madison Sts, BALTIMORE 5, Md, U.S.A.

a. Placentation. Study of marginal sinus and venous drainage of placenta. *Macaca mulatta*, *Homo sapiens* (*Primates*)

b. Study of circulation in the maternal placenta. *Macaca mulatta*, *Homo sapiens* (*Primates*)

c. Determinations of blood, amniotic and intervillous space pressures throughout pregnancy. *Macaca mulatta* (*Primates*) (in collaboration with G. W. CORNER, Jr and W. N. LONG)

Ran-Rem

- RANCK, J. B.S., M.D. — Lab. of Perinatal Physiol., NINDB, School of Med., SAN JUAN, P.R., U.S.A.
- Effects of adverse factors in the perinatal period on the electroencephalogram of the fetus and infant. (*Rodentia, Primates*) (in collaboration with Miss M. I. R. RAMIREZ de ARELLANO)
- RANZI, S. Ph.D., F.I.I.E., Prof. — Ist. di Zool. e Anat. Comp., Univ. di Milano, Via Celoria 10, MILANO, Italia
- Proteins and antigens in embryonic development. (*Echinodermata, Amphibia*)
- RANZOLI, F. Dr — Ist. di Zool. e Anat. comp., Via Università 4, MODENA, Italia
- Nucleolar changes and cycle of the ribonucleic acids during oogenesis. (*Gastropoda, Ascidiaceae*)
 - Sexual differentiation and hermaphroditism. *Hydroides norvegica* (*Serpulidae, Polychaeta*)
 - Regeneration and morphogenesis of the thoracic segments. *Salmacina incrustans* (*Serpulidae, Polychaeta*)
- RAPPAPORT, Jr, R. B.S., M.S., Ph.D. — Dept of Biol., Union Coll., SCHENECTADY 8, N.Y., U.S.A.
- Role of water in growth and morphogenesis. *Rana pipiens* (*Anura*)
 - Early embryology. *Marinogammarus obtusatus* (*Gammarides, Crustacea*)
- RASMONT, R. Lic. Sci. Zool. — Lab. de Zool., Fac. des Sci., Inst. Zool. Torley-Rousseau, Univ. libre de Bruxelles, 50 Avenue F. D. Roosevelt, BRUXELLES, Belgique
- RAUNICH, L. Ph.D., M.D., M.I.I.E. — Ist. di Anat. Comp., Univ. di Ferrara, FERRARA, Italia
- Ist. di Anat. Comp., Via Belmeloro 8, BOLOGNA (103), Italia
- Development of blood and vascular system. *Petromyzon* spec. (*Cyclostomata*), *Amia* spec., *Lepidosteus* spec. (*Holostei*)
 - Action of growth-substances on tail-regeneration. *Rana* spec., *Bufo* spec. (*Anura*)
 - Determination of neural plate. *Triton* spec., *Ambystoma* spec. (*Urodela*)
 - Neural crest development. (*Amphibia*)
 - Action of carcinogenic hydrocarbons. (*Amphibia*)
 - Steroids during development (chemical detection). (*Amphibia*)
- RAVEN, Chr. P. Dr Sc., F.I.I.E., F.R.A., Prof. — Zool. Lab. der Rijks Univ., Janskerkhof 3, UTRECHT, Holland
- Influence of lithium on morphogenesis. *Aplysia limacina* (*Gastropoda*)
 - Influence of various kations on development. *Limnaea stagnalis* (*Gastropoda*) (in collaboration with W. L. M. GEILENKIRCHEN)
 - Development of stomodaeum. *Limnaea stagnalis* (*Gastropoda*)
 - Structure of egg-follicle during oogenesis. *Limnaea stagnalis* (*Gastropoda*)
 - Maturation divisions of eggs. Various spp. (*Gastropoda*)
- RAWLES, Miss M. E. Ph.D., M.I.I.E. — Dept of Embryol., Carnegie Inst. of Washington, Wolfe and Madison Sts, BALTIMORE 5, Md, U.S.A.
- RAYNAUD, A. Dr ès Sci. — Lab. de l'Inst. Pasteur, SANNOIS, Seine et Oise, France
- Recherches sur le développement embryonnaire normal de la glande mammaire. *Mus musculus* (*Rodentia*)

- b. Production expérimentale de malformations mammaires chez le foetus, par action des hormones sexuelles. *Mus musculus* (*Rodentia*)
- c. Etude de l'évolution post-natale des malformations mammaires. *Mus musculus* (*Rodentia*)

RAZIMBAUD, Miss J. Lic.ès Sci. — Lab. de Zool., Fac. des Sci. de Bordeaux, 40 Rue Lamartine, TALENCE, Gironde, France

- a. Etude expérimentale de la morphogenèse embryonnaire de la tête. *Carausius spec.* (*Orthoptera*)

REAMS, Jr, W. M. B.S., Ph.D. — Dept of Anat., Med. Coll. of Virginia, RICHMOND 19, Va, U.S.A.

- a. Ontogeny of melanocyte form. *Gallus domesticus* (*Aves*)

REBERT, R. R. B.A., M.A., Ph.D. — Dept of Med. Res., Merck Sharp and Dohme Research Labs, Div. of Merck and Co Inc., 4545 Oleatha Ave, ST LOUIS 16, Mo., U.S.A.

- a. Origin of the ciliary ganglion. *Ambystoma punctatum* (*Urodela*)
- b. Preliminary experiments on induction of germ cells. *Ambystoma punctatum* (*Urodela*)

RECHENMANN, R. Lic. ès Sci. — Lab. de Zool. et d'Embryol. expér., Inst. de Zool. et de Biol. génér., 12 Rue de l'Université, STRASBOURG, France

- a. Morphogénèse et physiologie embryonnaire des glandes endocrines. (*Selachii, Teleostei*) (en collaboration avec J. H. VIVIEN et J. SCHOTT)

RECOURT, A. M.Sc. — Centrum voor Electronmicroscopie, Janskerkhof 3, UTRECHT, Holland

- a. Electron microscopy of the gonad. *Limnaea stagnalis* L. (*Gastropoda*)

REGGIANI, Miss M. P. Dr — Ist. di Zool. e Anat. comp., Via Università 4, MODENA, Italia

- a. Origin of the germ-cells; spermatogenesis; oogenesis. *Spirorbis pagenstecheri* (*Serpulidae, Polychaeta*)
- b. Morphogenesis of gonads and Bidder's organs. *Bufo bufo* (*Anura*)

REINBOLD, R. Lic. ès Sci. — Lab. de Zool. et d'Embryol. expér., Inst. de Zool. et de Biol. génér., 12 Rue de l'Université, STRASBOURG, France

- a. Différenciation sexuelle normale et conditionnement hormonal du tubercule génital chez l'embryon. *Gallus spec.* (*Aves*)
- b. Le développement et la différenciation de l'oeil en culture *in vitro*. *Gallus spec.* (*Aves*)

REIS, R. H. Ph.D. — Dept of Biol., Marquette Univ., 1217 West Wisconsin Ave, MILWAUKEE 3, Wis., U.S.A.

- a. A study of the anomalous renal vessels and inferior vena cava. *Canis familiaris, Felis domestica* (*Carnivora*)
- b. A study of the anomalous renal vessels and inferior vena cava. *Homo sapiens* (*Primates*)
- c. The development of the postcava. *Canis familiaris* (*Carnivora*)

REMBIELIŃSKI, B. M.D. — Inst. of Histol. and Embryol., Acad. of Med., Narutowicza 60, ŁÓDŹ, Poland

- a. Influence of sulfonamides on the development of the embryo. *Gallus domesticus* (*Aves*)

REMOTTI, E. Dott. Med. e Chirurg., Prof. — Ist. di Anat. e Fisiol. Comp., Univ. di Genova, GENOVA, Italia

Ren-Rom

- RENGEL S. L. Dr Med., Prof. — Dept of Anat., Fac. de Ci. Med., Universidad de Los Andes, MERIDA, Venezuela
- Development of the connective tissue (mouth, pelvis etc.) *Homo sapiens* (*Primates*)
- RESTIVO, Miss F. Dr — Ist. di Zool., Via Archirafi 18, PALERMO, Italia
- Glycogen content during development. (*Ascidiae*)
- REVERBERI, G. Dr, F.I.I.E., Prof. — Ist. di Zool., Via Archirafi 18, PALERMO, Italia
- The role of some enzymes in the embryonic development. (Marine *Evertebrata*)
- REXED, B. M.D., Prof. — Anat. Inst., Univ. Uppsala, UPPSALA, Sweden (no embryological work in progress)
- REYER, R. W. B.A., M.A., Ph.D., M.I.I.E. — Dept of Anat., School of Med., Univ. of West Virginia, MORGANTOWN, W.Va, U.S.A.
- An experimental analysis of lens regeneration: a study of the causal mechanisms involved in lens regeneration from the dorsal iris and their relation to the processes of lens induction in the embryo. *Triturus viridescens*, *Ambystoma punctatum* (*Urodela*) (in collaboration with L. S. STONE, New Haven)
 - A study of the coordinate induction systems operating in the development of the embryonic lens. *Triturus viridescens*, *Ambystoma punctatum* (*Urodela*)
- REYNOLDS, S. R. M. A.B., M.A., Ph.D., D.Sc.(hon.), Dr hon. causa (Univ. Catol. de Chile), Prof. hon. causa (Fac. de Med., Montevideo) — Dept of Anat., Coll. of Med., Univ. of Illinois, CHICAGO 12, Ill., U.S.A.
- Fetal vascular physiology. *Homo sapiens*, *Lepus spec.*, *Ovis spec.* (*Mammalia*)
 - Uterine contraction patterns. *Homo sapiens* (*Primates*)
 - Pulmonary vasculature, fetal and neonatal condition. *Cacia spec.*, (*Rodentia*), *Ovis spec.* (*Artiodactyla*)
 - Architecture of umbilical blood vessels, distended and nondistended. *Homo sapiens* (*Primates*)
- REYSS—BRION, Mrs M. — Lab. d'Embryol. expér. du Coll. de France, et Lab. d'Embryol. et de Tératol. expér. du C.N.R.S., 11 Place Marcelin Berthelot, PARIS Ve, France
- Malformations provoquées par l'irradiation aux rayons X de jeunes stades embryonnaires. *Pleurodeles Waltlii* (*Urodela*), *Gallus gallus* (*Aves*)
- RHODES, S. A. M.S. — Franklin Coll., FRANKLIN, Ind., U.S.A.
- RICHTER, K. M. B.A., M.A., Ph.D. — Dept of Anat., School of Med., Univ. of Oklahoma, OKLAHOMA CITY, Okla., U.S.A.
- RICHTER, Miss W. E. Biol.Cand. — Afd. Zool., Biol. Lab., Vrije Univ., Rapenburgerstr. 128, AMSTERDAM, Holland
- RIECK, A. F. B.S., M.S., Ph.D. — Dept of Physiol., Marquette Univ., MILWAUKEE 3, Wis. U.S.A.
- Quantitative correlation of the regenerative process with thyroid activity. *Triturus viridescens* (*Urodela*)
 - Studies on the determination of the limb regeneration blastema. *Ambystoma maculatum* (*Urodela*)

c. Analysis of components in the regeneration of adult forelimbs, using ultraviolet radiation. *Triturus viridescens* (*Urodela*)

ROBERTSON, G. G. B.A., B.Sc., Ph.D., Prof. — Div. of Anat., Med. Units Div., Fac. of Biol. Sci., Univ. of Tennessee, MEMPHIS 3, Tenn., U.S.A.

a. Virus-induced abnormalities in embryos. *Gallus domesticus* (*Aves*)

b. Analysis of growth rates of prenatal ossification centers. *Homo sapiens* (*Primates*)

ROCCA, E. Dr Biol.Sci. — Ist. di Zool. e Anat. comp., Univ. di Milano, Via Celoria 10, MILANO, Italia *phibia*)

a. Flow birefringence and physical chemistry of embryonic proteins. (*Am-*

ROCK, J. M.D. — Free Hospital for Women, 245 Pond Ave, BROOKLINE, Mass., U.S.A.

a. Histochemical observations on early fertilized ova of less than 14 days age. *Homo sapiens* (*Primates*) (in collaboration with A. T. HERTIG, W. J. MULLIGAN and Miss E. C. ADAMS)

ROCKSTEIN, M. A.B., M.A., Ph.D. — Bellevue Med. Center, New York Univ., 550 First Ave, NEW YORK 16, N.Y., U.S.A.

a. Physiological basis of aging, growth and metamorphosis. *Musca domestica* (*Diptera*)

b. Metachemogenesis — post-emergence biochemical maturation. (*Holo-*
metabola, Insecta)

ROLLHÄUSER, H. Dr med., Prof. — Anat. Inst. der Univ., Robert Kochstrasse 6, MARBURG/Lahn, Deutschland
(no embryological work in progress)

ROLLHÄUSER—ter HORST, Mrs J. O. B. Dr rer.nat. — Anat. Inst. der Univ., Robert Kochstr. 6, MARBURG/Lahn, Deutschland

a. Reaktion verschieden vorbehandelten Gastrula-Ektoderms auf denselben heterogenen Induktor, Behandlung der Gastrulae mit Hormonen, NaF, Butylalkohol u.a. Mit dem isolierten Ektoderm dieser Gastrulae werden Stücke erwachsener Triton-Leber umhüllt. *Triton alpestris* (*Urodela*)

ROMANI, Miss M. L. Dr — Ist. di Zool. e Anat. comp., Via Università 4, MODENA, Italia

a. Activity of sex hormones on the sex differentiation of gonads and Bidder's organ. *Bufo bufo* (*Anura*)

ROMANKOWOWA, Mrs A. M.Sc. — Zakład Anat. Porównawczej, Inst. Zool. Uniw., ul. Sienkiewicza 21, WROCLAW, Poland

a. Development of sesamoid bones in the carpus. (*Rodentia, Insectivora*)

ROMANOFF, A. L. B.S., M.S., Ph.D., Prof. — Lab. of Chem. Embryol., Cornell Univ., c/o Rice Hall 105, ITHACA, N.Y., U.S.A.

ROMANOVSKÝ, A. D.Sc. — Dept of Gener. and Exper. Zool., Zool. Inst. of Charles Univ., Viničná 7, PRAHA II, Czechoslovakia

a. Regeneration of the central nervous system in early developmental stages. *Ambystoma mexicanum*, *Triturus alpestris*, *Triturus taeniatus* (*Urodela*)

b. The influence of parabiosis in early embryonal stages on survival of heteroplastic grafts of limbs and skin. *Ambystoma mexicanum*, *Triturus alpestris*, *T. taeniatus*, *T. cristatus*, *T. montandoni* (*Urodela*)

ROMIJN, C. Dr, Prof. — Lab. for Veterinary Physiol., Alexander Numan-kade 93, UTRECHT, Holland

Romijn-Run

- a. Investigations on the respiratory metabolism and heat regulation in the embryo. *Gallus domesticus* (*Aves*)
 - b. The role of the allantoic circulation in the heat elimination of the embryo. *Gallus domesticus* (*Aves*)
- RONCORONI, G. — Cattedra di Istol. ed Embriol. gener., Fac. di Med. e Chir. dell'Univ. di Milano, Via Mangiagalli 31, MILANO, Italia
- a. Studies of solubility of embryonic glycogen with freezing-drying, freezing-substitution and chemical methods of fixation. (*Mammalia*)
- ROOFE, P. G. Ph.D., Prof. — Dept of Anat., Med. School, Univ. of Kansas, LAWRENCE, Kansas, U.S.A.
- a. Cytochemical and microchemical study of the developing nervous system and its relationship to developing behavior patterns. Acid and alkaline phosphatase in isolated areas of brain and spinal cord. *Ambystoma maculatum* (*Urodela*) (in collaboration with Mrs E. L. WENGER and B. S. WENGER)
 - b. Histochemical study of the developing nervous system and its relationship to developing behaviour patterns. DNA, RNA, acid and alkaline phosphatase. *Ambystoma maculatum* (*Urodela*) (in collaboration with Mrs E. L. WENGER and L. KELLER)
- ROOSEN-RUNGE, E. C. M.D. — Dept of Anat., School of Med., Univ. of Washington, SEATTLE 5, Wash., U.S.A.
- a. Quantitative studies in spermatogenesis. (*Mammalia*)
 - b. The development of the male reproductive system. (*Mammalia*)
- ROSE, S. M. Ph.D., M.I.I.E., Prof. — Dept of Zool., Univ. of Illinois, URBANA, Ill., U.S.A.
- ROSENBAUM, R. M. B.S., A.M., Ph.D. — Dept of Pathol., Albert Einstein Coll. of Med., Yeshiva Univ., Eastchester Rd and Morris Park Ave, NEW YORK, N.Y., U.S.A.
- a. Effects of hyperatmospheres of oxygen on development. *Rana pipiens*, *Rana sylvatica*, *Ambystoma punctatum* and other spp. (*Amphibia*)
 - b. Cytochemistry of the „haploid syndrome”. *Rana pipiens*, *Rana sylvatica*, *Ambystoma punctatum* and other spp. (*Amphibia*)
 - c. Cytochemistry of the cortical region of the egg. *Rana pipiens*, *Rana sylvatica*, *Ambystoma punctatum* and other spp. (*Amphibia*)
- ROSIN, S. Dr, Prof. — Abt.f.Genet., Zool. Inst. der Univ. Bern, Sahlistr. 8, BERN, Schweiz
- a. Borstenmuster und Flügelentwicklung. *Drosophila spec.* (*Diptera*) (in Zusammenarbeit mit W. NEF)
- ROSS, Miss J. R. W. B.Sc., M.B., Ch.B. — Anat. Dept. Charing Cross Hosp. Med. School, 62 Chandos Place, LONDON W.C. 2, England
- a. The development of the genital tract. *Ovis aries* (*Artiodactyla*)
- ROSS, S. Fil.mag. — Inst. for Zoophysiol., Uppsala Univ., UPPSALA, Sweden
- a. The mechanism of agglutination of spermatozoa. (*Mammalia*) (in collaboration with P. E. LINDAHL and N.-O. BODIN)
- ROSSI, A. Dr — Ist. di Anat. comp. "G. B. Grassi", Fac. di Sci., Univ. di Roma, Via Borelli 50, ROMA, Italia
- a. Xenoplastic grafts. (*Amphibia*)
- ROSSI-DE RUBEIS, F. Prof. — Ist. di Anat. Um. norm., Univ. di Genova, Viale Benedetto 15, GENOVA, Italia

- ROSSINI, Miss M. C. Dr Nat.Sci. — Ist. di Anat. Comp., Via Belmeloro 8, BOLOGNA (103), Italia
- Analysis of formative movements during neurulation (with vital stains). (*Amphibia*)
 - Researches on development of neural crest. (*Amphibia*)
- ROSTAND, J. — 29 Rue Pradier, VILLE d'AVRAY, Seine et Oise, France
- Parthénogenèse et gynogenèse; régulation chromosomique par le froid. (*Amphibia*)
 - Mutations (polydactylie, ectrodactylie, etc.) et anomalies provoquées par le milieu extérieur (principalement, "Anomalie P"). (*Amphibia*)
 - Action protectrice de la glycérine à l'égard de la congélation des cellules spermatiques. (*Amphibia*)
- ROTHENBUHLER, W. C. B.S., M.S., Ph.D. — Dept of Zool. and Entomol., Iowa State Coll., AMES, Iowa, U.S.A.
- Cleavage of zygote and accessory sperms in the origin of gynandromorphs. *Apis mellifera* (*Hymenoptera*)
 - Genetics of sex determination in haplo-diploid mosaics. *Apis mellifera* (*Hymenoptera*)
- ROTHSCHILD, Lord — Univ. Museum of Zool., Univ. of Cambridge, Downing St, CAMBRIDGE, England
- Sperm and fertilization (in collaboration with J. GRAY).
- ROUX, C. — Lab. d'Embryol., Fac. de Méd., 45 Rue des Sts Pères, PARIS VIe, France
- Anomalies du système uro-génital. *Mus rattus* (*Rodentia*)
- RUDEWICZ, Mrs Cz. Physician — Inst. of Histol. & Embryol., Acad. of Med., Narutowicza 60, ŁODZ, Poland
- RUDNICK, Miss D. Ph.D., M.I.I.E. — Osborn Zool. Lab., Yale Univ., NEW HAVEN 11, Conn., U.S.A.
- Glutamine metabolism in development. *Gallus spec.* (*Aves*)
- RUGH, R. A.B., M.A., Ph.D., M.I.I.E. — Radiological Research Lab., Dept of Radiol., Coll. of Physicians & Surgeons, Columbia Univ., 630 West 168th St, NEW YORK 32, N.Y., U.S.A.
- Heterosis and X-irradiation tolerance. *Mus musculus* (*Rodentia*)
 - Sensitivity to irradiation of the fetal testes at different stages of development. *Mus musculus* (*Rodentia*)
 - Reparation of the fetal eye following irradiation insult. *Mus musculus* (*Rodentia*)
 - Behavior following low-level fetal X-irradiation. *Rattus norvegicus* (*Rodentia*)
- RUNNER, M. N. Ph.D. — Roscoe B. Jackson Memorial Lab., BAR HARBOR, Me, U.S.A.
- Hormonal induction of ovulation, conception and pregnancy in prepuberal animals. *Mus musculus* (*Rodentia*)
 - Parental and dietary influences on skeletal morphogenesis. *Mus musculus* (*Rodentia*)
 - Carbohydrate metabolism in relation to chemically induced phenocopies of the skeleton. *Mus musculus* (*Rodentia*)
 - Hereditary susceptibility to congenital deformity. *Mus musculus* (*Rodentia*)
- RUNNSTRÖM, J. A. M. Ph.D., M.D., F.I.I.E., Prof. — Wenner-Grens Inst. for exper. Biol., Norrtullsgatan 16, STOCKHOLM Va., Sweden

- a. Induction phenomena in development. (*Echinodermata*)
 - b. Physiology of fertilization. (*Echinodermata*)
- RUTH, R. F. — Dept of Embryol., Carnegie Inst. of Washington, Wolfe and Madison Sts, BALTIMORE 5, Md, U.S.A.
- a. Biochemical and immunochemical analysis of the synthesis and distribution of the contractile proteins, actin, myosin (esp. H-meromyosin) and tropomyosin in the development of the heart in the early embryo. *Gallus gallus (Aves)* (in collaboration with J. D. EBERT)
 - b. The metabolic characteristics of the heart-forming areas of the early embryo. *Gallus gallus (Aves)* (in collaboration with J. D. EBERT)
- RUUD, Miss G. Cand.real. — Zool. Lab., Univ. of Oslo, OSLO-BLINDERN, Norway
- RYCHTER, Z. MUDr — Dept of Anat., Charles Univ., U nemocnice 3, PRAHA II, Czechoslovakia
- a. Experimental morphology of the aortic arches and of the heartloop. *Gallus domesticus (Aves)*
 - b. Experimental analysis of cardiovascular anomalies. *Gallus domesticus (Aves)*
- RYKE, P. A. J. M.Sc., Ph.D. — Dept van Dierkunde, Potchefstroom Univ., POTCHEFSTROOM, Suid-Afrika
(no embryological work in progress)
- SABBADIN, A. Dr — Ist. di Zool. e Anat. comp., Fac. di Sci., Via Loredan 10, PADOVA, Italia
- a. Differentiation of gonads. (*Reptilia*)
 - b. Gonad development. Influence of thyroidectomy and hypophysectomy; role of mesonephros and adrenals. (*Amphibia*)
 - c. Sexual and asexual reproduction. (*Ascidiacea*)
- SAKAI, H. M.A. — Embryol. Section, Dept of Biol., Tokyo Metropolitan Univ., Setagaya-ku, TOKYO, Japan
- a. The behaviour of glutathione and protein sulphhydryl groups during egg cleavage. (*Echinoidea*)
- SALA, M., S.J. Dr — Ist. di Zool. e Anat. Comp., Fac. di Sci., Via Loredan 10, PADOVA, Italia
- a. Distribution of activating and transforming principles in the archenteron roof of the neurula (analysis of the regional induction of the nervous system). *Ambystoma mexicanum (Urodela)*
 - b. Determination of the peripheral nervous system. (*Anura*)
- SALFI, M. Dr Sci.Nat., Prof. — Ist. di Zool., Università, Via Mezzocanone 8, NAPOLI, Italia
- a. Blastogenesis. (*Ascidiacea*)
- SALZGEBER, Miss B. Dr ès Sci. — Lab. d'Embryol. expér. du Coll. de France, et Lab. d'Embryol. et de Tératol. expér. du C.N.R.S., 11 Place Marcelin Berthelot, PARIS Ve, France
- a. Recherches sur l'action d'agents physiques et chimiques sur la différenciation sexuelle.
 - b. Action de substances chimiques sur les gonades embryonnaires cultivées *in vitro*.
- SAMANO BISHOP, Miss A. Dr — Inst. de Biol., Ciudad Universitaria, MÉXICO D.F., México
- a. Origin and development of the acustic ganglia. *Sceloporus microlepidotus (Iguanidae, Reptilia)*

- b. Development. *Tomodactylus fuscus* Davis & Dixon (*Amphibia*)
- SAMBUICHI, H. Dr — Zool. Lab., Fac. of Sci., Hiroshima Univ., Higashi-senda-cho, HIROSHIMA, Japan
- SAMUELS, A. J. Ph.B. — Div. Chem. Embryol., Med. Center, Univ. of Colorado, 4200 East Ninth Ave, DENVER 20, Colo, U.S.A.
- a. Chemistry of muscle differentiation. *Gallus domesticus* (*Aves*) (in collaboration with H. HERRMANN and I. R. KONIGSBERG)
- SANDER, K. Dipl.biol., Ph.D. — Zool. Inst. der Univ. Tübingen, Hölderlinstr. 12, TÜBINGEN, Deutschland
- a. Primitiventwicklung. *Euscelis plebejus* (*Cicadina, Homoptera*)
- SANGVICHIAN, S. M.B., M.D. — Dept of Anat., Fac. of Med. and Siriraj Hospital, Univ. of Med. Sci., BANGKOK, Thailand
- a. An attempt to produce regeneration of the lens. *Hemidactylus platyurus* (*Lacertilia*)
- SANIR, Miss E. K. M.D. — Lab. for Cytol. and exper. Histol., Fac. of Med., Univ. of Leyde, Rijnsburgerweg 10, Boerhaavekwartier, LEIDEN, Holland
- a. Thyroid development in vitro. *Gallus gallus* (*Aves*)
- SANYAL, S. M.Sc. — Dept of Zool., Presidency Coll., College St, CALCUTTA 12, India
- a. Mechanism of cellular differentiation. *Hydra spec.* (*Coelenterata*)
- b. Cell transplantation and isolation. *Hydra spec.* (*Coelenterata*) (in collaboration with S. MOOKERJEE)
- SATO, T. D.Sc., D.Phil.Nat., M.I.I.E., Prof. — Biol. Inst., Fac. of Sci., Nagoya Univ., Chigusa-Ku, NAGOYA, Japan
— temporarily: Max Planck-Inst. für Meeresbiol., Anton Dohrn-Weg, WILHELMSHAVEN, Germany
- SAUNDERS, J. W. B.S., M.S., Ph.D., M.I.I.E. — Dept of Biol., Marquette Univ., 1217 West Wisconsin Ave, MILWAUKEE 3, Wis., U.S.A.
- a. Identification of prospective pigment cells. *Gallus domesticus* (*Aves*), *Mus musculus* (*Rodentia*)
- b. Factors affecting the rate of melanin synthesis in embryonic tissues. *Gallus domesticus* (*Aves*), *Mus musculus* (*Rodentia*)
- c. The role of the ectoderm in the development of the limbs. *Gallus domesticus* (*Aves*)
- d. An analysis of the factors affecting tract-specificity in embryonic feather areas. *Gallus domesticus* (*Aves*)
- e. Ectoderm-mesoderm interactions in formation of the limbs. *Gallus domesticus* (*Aves*)
- f. Cellular deaths in morphogenesis of the embryonic limbs. *Gallus domesticus* (*Aves*), *Mus musculus* (*Rodentia*)
- g. Production of tumor-specific antibodies. *Gallus domesticus* (*Aves*), *Mus musculus* (*Rodentia*)
- h. Fate-maps for the limb buds. *Gallus domesticus* (*Aves*)
- SAUSER, G. Dr, Dr, Mr, Prof. — Histol.-Embryol. Inst. der Univ., Müllerstr. 59, INNSBRUCK, Tyrol, Oesterreich
- a. Morphomechanik. *Homo sapiens* (*Primates*)
- b. Histophysiologie und quantitative Cytologie.
- c. Färbungs- und Konservierungstechnik. *Homo sapiens* (*Primates*)
- d. Morphogenese und Histogenese.
- e. Gewebezüchtung.

- SAWIN, P. B. B.S., M.S., Sc.D. — Roscoe B. Jackson Memorial Lab., BAR HARBOR, Me, U.S.A.
- Racial differences in regional growth processes from onset of ossification to birth. *Oryctolagus cuniculus* (*Lagomorpha*)
 - Disproportionate growth induced by the „Dacks” (*Da*) gene and recessive achondroplasia *ac* (Pearce & Brown) genes at 22 days postcopulation. *Oryctolagus cuniculus* (*Lagomorpha*)
 - The interaction of the regional growth processes and these specific disproportionate growth genes induced by hybridization. *Oryctolagus cuniculus* (*Lagomorpha*)
- SAXÉN, L. O. M.A., M.D. — Zool. Lab., Univ. of Helsinki, P. Rautatiekatu 13, HELSINKI, Finland
- The inductive action of malignant tumors. *Triturus* spec. (*Urodela*) (in collaboration with S. I. TOIVONEN)
 - Thyroid gland and adenohipophysys in normal and delayed metamorphosis. *Xenopus laevis* (*Anura*) (in collaboration with S. I. TOIVONEN)
- SCHABERG, A. M.D. — Lab. for Cytol. and exper. Histol., Fac. of Med., Univ. of Leyde, Rijnsburgerweg 10, Boerhaavekwartier, LEIDEN, Holland
- Development of suprarenal gland. *Homo sapiens* (*Primates*)
 - Hypothalamic-pituitary-suprarenal interrelations. *Rattus* spec. (*Rodentia*)
- SCHALEKAMP, M. A. D. H. Med. Cand. — Anat.-Embryol. Lab., Free Calvinistic Univ., Pr. Hendriklaan 27, AMSTERDAM Z, Holland
- An investigation into the presence of specific protein-antigens in the brain. *Gallus domesticus* (*Aves*)
- SCHECHTMAN, A. M. A.B., Ph.D., F.I.I.E., Prof. — Dept of Zool., Univ. of Calif., LOS ANGELES 24, Cal., U.S.A.
- SCHEIB—PFLEGER, Mrs. D. Dr ès Sci. — Lab. d'Embryol. expér. du Coll. de France, et Lab. d'Embryol. et de Tératol. expér. du C.N.R.S., 11 Place Marcelin Berthelot, PARIS Ve, France
— Lab. de Zool. et d'Embryol. expér., Inst. de Zool. et de Biol. génér., 12 Rue de l'Université, STRASBOURG, France
- La différenciation sexuelle, par les méthodes de greffes, de castration, d'injections d'hormones et d'explantations. Différenciation normale et inversion sexuelle des gonades, des voies génitales et des caractères somatiques précoces. *Gallus* spec., *Anas* spec. (*Aves*) (en collaboration avec Et. C. WOLFF, Miss B. SALZGEBER, A. HAMPÉ et G. STRUDEL)
- SCHENK, R. Dr Med. — Anat. Inst. der Univ., Pestalozzistr. 20, BASEL, Schweiz
- SCHINCKEL, P. G. B.V.Sc. — Div. of Animal Health and Production, C.S.I.R.O., Sheep Biol. Lab., Great Western Highway, (P.O. Box 144 Parramatta), PROSPECT, N.S.W., Australia
- Pre-natal development and organization of the hair follicle population. *Ovis* spec. (*Artiodactyla*)
- SCHJEIDE, O. A. Ph.D. — Atomic Energy Project, Univ. of Calif., LOS ANGELES, Cal., U.S.A.
- SCHLESINGER, A. B. B.A., M.S. — Dept of Biol., School of Med., The Creighton Univ., OMAHA, Nebraska, U.S.A.

- a. Physical and chemical nature of yolk. (*Aves*)
 - b. Mechanisms of growth of the marginal blastoderm. *Gallus spec.* (*Aves*)
 - c. A description of the normal regression of mesenchyme in the middle ear cavity as compared with retention of middle ear mesenchyme in congenital conduction deafness. *Rattus norvegicus* (*Rodentia*)
 - d. Experimental attempts to alter the rate of mesenchymal regression in the middle ear cavity. *Rattus norvegicus* (*Rodentia*)
 - e. Differentiation capacities of middle ear mesenchyme *in vitro* and as chorio-allantoic grafts. *Rattus norvegicus* (*Rodentia*)
- SCHNEIDER, D. Dr rer.nat. — Max Planck-Inst. für Biol., Spemannstr. 34, TÜBINGEN, Deutschland
- a. Entwicklungsphysiologie des Phototropismus.
 - b. Bildung des Integuments.
 - c. Regeneration.
 - d. Polymorphismus. *Bugula avicularia* (L) (*Gymnolaemata, Bryozoa ectoprocta*)
 - e. Wachstum von Kalkkristallen im Integument. (*Bryozoa stenolaemata et gymnolaemata*)
- SCHNEIDER, R. Dr med. — Dr Senckenberg. Anat. Inst., Med. Fak. der Univ., Ludwig Rehnstr. 14, FRANKFURT/Main-Süd, Deutschland
- SCHNETTER, M. Dr phil. — Zool. Inst. der Univ., Katharinenstrasse 20, FREIBURG i. Brsg., Deutschland
- SCHNITZER, M. — Zool.vergl. Anat. Inst., Naturw. Fak., Univ. Zürich, Künstlergasse 16, ZÜRICH 6, Schweiz
- SCHOELLER, Miss J. — Centre de Biol. anim., 40 Rue Lamartine, TALENCE (Gironde), France
- a. Facteurs de la différenciation des disques imaginaux de la tête. *Calliphora spec., Sarcophaga spec.* (*Diptera*)
 - b. Formation de la tête imaginaire. *Calliphora spec.* (*Diptera*)
- SCHOLTEN, F. C. — Anat.-Embryol. Lab., Free Calvinistic Univ., Pr. Hendriklaan 27, AMSTERDAM Z, Holland
- a. The influence of hypoxaemia during gravidity on the development of the cerebellum of the foetus. *Rattus norvegicus* (*Rodentia*) (in collaboration with F. Van FAASSEN and F. STAM)
- SCHOTT, J. Lic. ès Sci. — Lab. de Zool. et d'Embryol. expér., Inst. de Zool. et de Biol. génér., 12 Rue de l'Université, STRASBOURG, France
- a. Morphogénèse et physiologie embryonnaire des glandes endocrines. (*Selachii, Teleostei*) (en collaboration avec J. VIVIEN et R. RECHENMANN)
 - b. Analyse du processus de régulation et de paragénèse. (*Selachii*) (en collaboration avec Miss D. HAY et J. H. VIVIEN)
- SCHOTTÉ, O. E. Dr, M.I.I.E., Prof. — Dept of Biol., Amherst Coll., AMHERST, Mass., U.S.A.
- SCHREIBER, B. M.I.I.E., Prof. — Ist. di Zool. e Anat. comp., Università, PARMA, Italia
- a. Chemistry of the bone-inducing substances in bone extracts. (*Amphibia*), *Gallus domesticus* (*Aves*)
 - b. Induction in *in vitro* cultured tissues. (*Amphibia*), *Gallus domesticus* (*Aves*)
- SCHREIBER, G. Ph.D., Prof. — Inst. de Biol., Fac. Filosofia, Univ. de Minas Gerais, Caixa Postal 253, BELO HORIZONTE, M.G., Brasil

Schreiber-Sha

- a. Quantitative cytology: nuclear size and number of „nucleolar units“. *Bufo spec. (Anura)*, *Gallus spec. (Aves)*, *Mus rattus (Rodentia)*
 - b. Intersexuality. *Bothrops insularis* Amand (*Ophidia*) (in collaboration with A. HOGE, São Paulo and H. BELLVOMINI, São Paulo)
- SCHREURS, A. F. B.Sc. — Hubrecht Lab., Intern. Embryol. Inst., Janskerkhof 2, UTRECHT, Holland
- a. Analysis of competence of ectoderm for neural induction with various experimental techniques. *Ambystoma mexicanum (Urodela)*
 - b. Interaction of patterns in neural plate and underlying archenteron roof after rotation of the neural plate through 180°. *Ambystoma mexicanum (Urodela)*
- SCHRÖDER, R. K. P. Dr Med. — Anat. Inst. der Univ. Hamburg, Schottmüllerstr. 1, HAMBURG 20, Deutschland
— z.Zt. Altonaer Krankenhaus, Abt. f. innere Medizin, HAMBURG
- a. Fetal membranes. NANCY, France
- SCHWANDER, J. — Lab. de Physiol. Génér., 30, Rue Sainte-Cathérine.
- a. Recherches expérimentales sur la chronologie du développement biochimique au niveau de l'encéphale. *Gallus domesticus (Aves)* (en collaboration avec J. F. GAYET)
- SCHWARTZ, V. Dr — Max Planck-Inst. für Biol., Spemannstr. 34, TÜBINGEN, Deutschland
- a. Ontogenese des Flügelmusters. *Plodia spec. (Lepidoptera)*
- SEDRA, S. N. B.Sc., M.Sc., Ph.D., F.Z.S. — Dept of Zool., Alexandria Univ., Moharram Bey, ALEXANDRIA, Egypt
- a. Stages in normal development. *Bufo regularis (Anura)*
 - b. Seven interesting abnormal urostyles. *Bufo regularis (Anura)*
 - c. The development of the nasal capsules. *Bufo regularis (Anura)* (in collaboration with M. I. MICHAEL)
 - d. The ontogenesis of the vertebral column. *Bufo regularis (Anura)* (in collaboration with A. A. MOURSİ)
 - e. The structure of the hyobranchial apparatus of the tadpoles. *Bufo regularis (Anura)* (in collaboration with M. I. MICHAEL)
 - f. The development of the columella auris. *Bufo regularis (Anura)* (in collaboration with M. I. MICHAEL)
- SEGAL, S. J. M.S., Ph.D., M.I.I.E. — Population Council, Rockefeller Inst. for Med. Research, 66th St and York Ave, NEW YORK 21, N.Y., U.S.A.
- SEHE, Ch. T. — Dept of Zool., Univ. of Illinois, URBANA, Ill., U.S.A.
- SEIDEL, F. Dr Phil., o.Prof. — Zool. Inst. der Univ., Ketzlerbach 63, (16) MARBURG/Lahn, Deutschland
- a. Morphologische und physiologische Untersuchungen an der embryonalen Entwicklung. *Oryzotolagus cuniculus (Lagomorpha)*, *Mus musculus (Rodentia)*
 - b. Morphologische und physiologische Untersuchungen an der embryonalen Entwicklung. *Platycnemis spec.*, *Calopteryx spec. (Odonata)*, *Gryllus spec.*, *Dixippus spec. (Orthoptera)*, *Apis spec. (Hymenoptera)*, *Drosophila spec. (Diptera)*, *Ascaris spec. (Nematoda)*
- SELMAN, G. G. Ph.D. — Inst. of Animal Genet., Univ. Dept of Genet., King's Buildings, West Mains Rd, EDINBURGH 9, Scotland
- a. Study of the effects of destroying the primary organisation of mosaic and regulation eggs by ultrasonic treatment. (*Invertebrata*)

- b. Some measurements of morphogenetic forces and the mechanical properties of the tissue concerned. (*Amphibia*)
- c. Study of certain features of developing embryos using electron-micrographs of ultrathin sections and cytochemical techniques. *Drosophila melanogaster* (*Diptera*), (*Amphibia*) (in collaboration with C. H. WADDINGTON and Miss M. M. PERRY)
- SEMBRAT, K. Ph.D., D.Sc., Prof. — Zakład Zool. Ogólnej, Inst. Zool., Univ. we Wrocławiu, ul. Sienkiewicza 21, WROCŁAW, Poland
- a. Descriptive and experimental embryology. *Sagartia leucolea* Verrill (*Anthozoa*)
- b. Localization of the primary gonocytes in the early gastrula. (*Amphibia*)
- c. The morphogenetical functions of the thyroid gland and hypophysis. (*Pisces*, *Amphibia*, *Reptilia*, *Aves*)
- d. Regulation and regeneration of the primary optic vesicle. *Triturus* spec. (*Urodela*)
- SEMBRATOWA, Mrs Z. OPOCZYŃSKA M.D., Prof. — Zakład Histol. i Embryol., Akad. Medycznej, Chalubińskiego 6a, WROCŁAW, Poland
- a. Regulation and regeneration of the primary optic vesicle. *Triturus* spec. (*Urodela*)
- SENGEL, Ph. Lic. ès Sci. — Lab. d'Embryol. expér. du Coll. de France, et Lab. d'Embryol. et de Tératol. expér. du C.N.R.S., 11 Place Marcelin Berthelot, PARIS Ve, France
- a. Pigmentation de la peau d'embryon cultivée in vitro sur milieux naturels et synthétiques. *Gallus gallus* (*Aves*)
- b. Analyse in vitro des rôles du derme et de l'épiderme dans la différenciation des germes plumaires chez l'embryon. *Gallus gallus* (*Aves*)
- SENO, T. — Dept of Anat., School of Med., Gunma Univ., MAEBASHI, Japan
- a. Origin of the ventral body-wall. *Gallus domesticus* (*Aves*)
- b. Cartilage forming capacity of somite cells. *Gallus domesticus* (*Aves*)
- SENSENG, E. C. B.A., M.S., Ph.D., Prof. — Univ. of Alabama, Med. Center, BIRMINGHAM 5, Alabama, U.S.A.
- SETO, H. Prof. — Anat. Lab., Tohoku Univ., SENDAI, Japan
(no embryological work in progress)
- SETTLE, G. W. A.B., M.D. — Dept of Embryol., Carnegie Inst. of Washington, Wolfe and Madison Sts, BALTIMORE 5, Md, U.S.A.
- a. Anatomy of club-foot deformities (particularly talipes equinovaris) in the fetus. *Homo sapiens* (*Primates*)
- SEVKET GIZ, F. Dr, Prof. — Zooloji Enstitüsü, Süleymaniye-Müftülük, ISTANBUL, Turkey
- SHAFIQ, S. A. M.Sc., D.Ph. — Dept of Zool., Dacca Univ., DACCA, Pakistan
- SHANER, R. F. Ph.D., F.R.S.C., Prof. — Dept of Anat., Univ. of Alberta, Med. School, EDMONTON, Alberta, Canada
- a. A study of abnormal hearts in embryos corresponding to the third month of human development. *Sus scrofa* (*Artiodactyla*)
- b. Study of a collection of abnormal embryos of an age corresponding to the third month of human development with the aim of throwing light on the development of various human abnormalities. *Sus scrofa* (*Artiodactyla*)
- c. Development of abnormal pulmonary and aortic valves.

- SHANNON, J. E. — Med. Coll., Cornell Univ., NEW YORK, N.Y., U.S.A.
 a. Factors affecting reaggregation and segregated cells in tissue culture.
- SHAVER, J. R. A.B., Ph.D. — Zool. Dept. Michigan State Univ., EAST LANSING, Mich., U.S.A. (no embryological work in progress)
- SHEN, S. C. Ph.D. — Osborn Zool. Lab., Yale Univ., NEW HAVEN 11, Conn., U.S.A.
 a. Comparative cytochemistry of central nervous system. (*Vertebrata*)
 b. Cytochemical differentiation of the endplates. *Ambystoma punctatum*, *Rana pipiens* (*Amphibia*)
- SHIINO, S. M. B.Sc., D.Sc. — Zool. Inst., Fac. of Fisheries, Mie Prefectural Univ., TSU-CITY, Mie-Pref., Japan
 a. On origin and fate of teloblasts. *Goetice depressus* (*Brachyura, Decapoda*), *Eupagurus samuelis* (*Anomura, Decapoda*), *Spirontocaris rectirostris* (*Macrura, Decapoda*)
- SHIN-IKÉ, T. — Osaka Dental Coll., HIRAKATA CITY, Osaka-Pref., Japan
 a. Factors in the morphogenesis of the pronephric system. *Triturus pyrrhogaster* (*Urodela*)
- SHIOMI, T. — Zool. Inst., Fac. of Sci., Univ. of Kyoto, KYOTO, Japan
 a. Studies on the hereditary lethals. *Drosophila spec.* (*Diptera*)
- SHORT, B. F. M.Agr.Sci., Ph.D. — Div. of Animal Health and Production, C.S.I.R.O., Sheep Biol. Lab., Great Western Highway, (P.O. Box 144, Parramatta), PROSPECT, N.S.W., Australia
 a. Response to homologous antigens. *Mus musculus*, *Ovis spec.* (*Mammalia*)
- SHULOV, A. Dr Sc.Nat. — Dept of Zool., Hebrew Univ., JERUSALEM, Israel
 a. Ecological conditions of development of eggs. Artificially induced interruption of development (eggs) (The changes in yearly development cycles under influence of dryness or/and humidity). *Calliptamus spec.*, *Schistocerca gregaria*, *Locusta migratoria migratorioides*, *Nomadacris septemfasciata* (*Orthoptera*)
 b. Protease of eggs. Correlation of the morphological changes in the embryo with appearance of protease. *Schistocerca gregaria*, *Locusta migratoria migratorioides* (*Orthoptera*)
 c. Structure of the chorion and the micropyle. *Ymethis pulchripennis asiaticus* Uvarov (*Orthoptera*)
- SHUTE, C. C. D. M.A., M.B., B.Chir. — Anat. School, Univ. of Cambridge, CAMBRIDGE, England
- SIDMAN, R. A.B., M.D. — Section Devel. and Regen., Lab. of Neuroanat. Sci., NINDB, Nat. Inst. of Health, BETHESDA, Md, U.S.A.
 a. Tissue and organ culture in vitro, central and peripheral nervous system. (*Aves, Mammalia*)
- SIEGFRIED, J. — Inst. d'Anat., Fac. de Méd., Univ. de Genève, 20 Rue Ecole de Méd., GENÈVE, Suisse
 a. Développement du plexus solaire (plexus coeliacus).
- SIGOT, A. — Lab. de Biol. gén., Inst. de Zool. et de Biol. gén., Fac. des Sci., 12 Rue de l'Université, STRASBOURG, France
 a. Etude de la sensibilité héréditaire au gaz carbonique. *Drosophila melanogaster* (*Diptera*)
- SIGOT, M. Lic.ès Sci. — Lab. d'Embryol. expér. du Coll. de France, et Lab. d'Embryol. et de Tératol. expér. du C.N.R.S., 11 Place Marcelin Berthelot, PARIS Ve, France

- a. Etude biochimique du développement de l'intestin; constitution et fonctionnement enzymatique. *Gallus spec. (Aves)*
- SILÉN, L. K. P. Fil.Dr, Prof. — Zootom. Inst., Univ. of Stockholm, 70A Rådmsgatan, STOCKHOLM, Sweden
- SILVER, P. H. S. Ph.D. — Anat. Dept, Middlesex Hosp., Med. School, LONDON W. 1, England
- SIMON, Mrs D. Lic. ès Sci. — Lab. de Zool. et d'Embryol. expér., Inst. de Zool. et de Biol. génér., 12 Rue de l'Université, STRASBOURG, France
- a. Explantation *in vitro* de jeunes embryons et étude des besoins nutritifs nécessaires à leur survie, leur différenciation et leur croissance par des aliments naturels et synthétiques entrant dans les milieux de culture. *Gallus spec. (Aves)*
- b. La localisation et la migration des cellules germinales aux premiers stades du développement. *Gallus spec. (Aves)*
- SINCLAIR, J. G. B.S., M.S., Ph.D., Prof. — Dept of Anat., Med. Branch, Univ. of Texas, GALVESTON, Tex., U.S.A.
- a. Anterior cerebral nerve plexus in adult and fetus. *Tursiops truncatus, Oryctolagus cuniculus, Mus musculus, Homo sapiens (Mammalia)*
- b. Continued study of developmental anomalies. Brain. Heart. *Mus musculus, Homo sapiens (Mammalia)*
- c. Continued study of transplacental effects of urethan. *Mus musculus (Rodentia)*
- d. Developmental pattern and mechanism of iris and ciliary body. *Tursiops truncatus, Oryctolagus cuniculus, Mus musculus, Homo sapiens (Mammalia)*
- SINGER, M. B.S., A.M., Ph.D., Prof. — Dept of Zool., Cornell Univ., ITHACA, N.Y., U.S.A.
- a. Introduction of chemicals directly into developing regenerates and tissues by means of a method of microinfusion. *Triturus viridescens viridescens (Urodela)*
- b. Electron microscopic studies of regenerates. *Ambystoma punctatum*
- c. The induction of regeneration in postmetamorphic animals by increase in nerve number. (*Anura*)
- SINGER, R. M.B., Ch.B., F.R.A.I. — Anat. Dept, Med. School, Univ. of Cape Town, MOWBRAY, C.P., South Africa
- a. Development of clavicle, humerus and femur. *Homo sapiens (Primates)*
- b. Factors producing ectopia vesicae. *Homo sapiens (Primates)*
- c. Factors producing renal agenesis. *Homo sapiens (Primates)*
- SINHA, A. B.Sc.(Hons) — Dept of Zoology, Presidency Coll., College St, CALCUTTA 12, India
- a. Cell transplantation and isolation. *Hydra spec. (Coelenterata)* (in collaboration with S. MOOKERJEE)
- SIPPEL, T. O. A.B., Ph.D. — Dept of Anat., School of Med., Western Reserve Univ., CLEVELAND, Ohio, U.S.A.
- a. Energy metabolism of the developing lens. *Rattus rattus (Rodentia)*
- SIRAKAMI, K. I. M.A., Ph.D. — Biol. Dept, Yamanashi Univ., KOFU, Japan
- a. Cell division of isolated blastomeres. *Triturus pyrrhogaster, Bufo vulgaris (Amphibia)*
- b. Normal Table on a cyto-embryological (cytometrical) basis. *Bufo vulgaris (Anura)*

- SIRLIN, J. L. Dr Nat.Sci. — Inst. of Animal Genet., Univ. Dept of Genet., King's Buildings, West Mains Rd, EDINBURGH 9, Scotland
- Differentiation of protein and nucleic acids in embryos. (*Diptera, Amphibia, Aves*)
 - Transfer of substances during induction. (*Amphibia*) (in collaboration with S. K. BRAHMA)
 - Investigation of gametogenesis and of early embryonic development using radioactive tracers. *Mus musculus (Rodentia)* (in collaboration with R. G. EDWARDS)
 - Metabolism of radio-isotopes. *Triturus spec. (Urodela)* (in collaboration with C. H. WADDINGTON)
- SKINNER, J. H. M.Sc. — Zool. Inst., Univ. of Stellenbosch, STELLENBOSCH, South Africa
- Ontogenesis of the shoulder-girdle and sternum. *Microsaura pumila (Lacertilia)*
- SKREB, N. M.D., D.Sc. — Inst. de Biol., Fac. de Méd., Salata, ZAGREB, Yougoslavie
- Experimental studies on early development. 1. Intrauterine injections of isotonic solutions of LiCl. 2. Transplantation of the blastocyst in different transfer media (with LiCl). *Rattus norvegicus albinus (Rodentia)* (in collaboration with Miss B. LEVAK)
- SLABÝ, O. Dr, Dr, Prof. — Inst. of Histol. and Embryol., Fac. of Med., Charles Univ., Karlovarská ul. 48, PLZEŇ, Czechoslovakia
- The development of the skull. (*Amniota*, including *Homo sapiens*)
 - The development of the limbs. (*Amniota*, including *Homo sapiens*)
 - The development of the nasal cavity. (*Amniota*, including *Homo sapiens*)
- SLADEČEK, F. D.Sc. — Dept of Gener. and Exper. Zool., Zool. Inst. of Charles Univ., Viničná 7, PRAHA II, Czechoslovakia
- Regulation of central nervous system in early development. Relations between morphological and functional regulation (development of motility). *Ambystoma mexicanum, Triturus taeniatus, T. alpestris (Urodela)*
 - Induction with haploid inductors in diploid hosts and vice versa. *Ambystoma mexicanum (Urodela)*
- SLIJPER, E. J. Dr, Prof. — Zool. Lab. der Univ., Plantage Doklaan 44, AMSTERDAM C, Holland
- The embryonic bloodcirculation (ductus Botalli, ductus Arantii etc.) (*Cetacea*)
- SLIPKA, J. Dr, Dr — Inst. of Histol. and Embryol., Fac. of Med., Charles Univ., Karlovarská 48, PLZEŇ, Czechoslovakia
- The development of the branchial region. (*Amniota*, including *Homo sapiens*)
 - The morphogenesis of the tongue from the standpoint of evolutionary morphology. (*Amniota*, including *Homo sapiens*)
- SMALL, Miss J. E. Ph.D. — Dept of Zoology, Yale Univ., NEW HAVEN, Conn., U.S.A.
- The capacity of tissue cells to differentiate after prolonged growth *in vitro*. *Gallus domesticus (Aves)*
- SMET, W. M. A. De Lic.Zool.Sci. — Kasteellei 57, BRASSCHAAT, Belgium
- Inst. de Zool., Univ. de Louvain, 71 Rue de Namur, LOUVAIN.

a. Development of urogenital system. *Polypterus spec. (Crossopterygii)*
SMITH, A. S. A.B. — Dept of Zool., Univ. of Calif., LOS ANGELES 24,
Cal., U.S.A.

SMITH, Miss B. T. — Dept of Biol., Hamilton Coll., McMaster Univ.,
HAMILTON, Ontario, Canada

SMITH, S. M.A., Ph.D. — Univ. Museum of Zool., Univ. of Cambridge,
Downing St, CAMBRIDGE, England

SMITHBERG, M. Ph.D. — Roscoe B. Jackson Mem. Lab., BAR HAR-
BOR, Me, U.S.A.

SMRECZYŃSKI, S. Ph.D. — Zool. Dept of the Jagiellonian Univ., St
Anne 6, KRAKOW, Poland
(no embryological work in progress)

SNELLEN, H. A. Med.Dr, Prof. — Anat.-Embryol. Lab. of the Univ. of
Leyden, Wassenaarseweg, Boerhaavekwartier, LEIDEN, Holland

a. Heart and vessels in congenital malformations. *Homo sapiens (Prima-
tes)* (in collaboration with J. DANKMEIJER, Miss A. DEKKER and
Miss H. C. van INGEN)

SNOOK, T. B.S., M.S., Ph.D. — Dept of Anat., School of Med., Univ.
of North Dakota, GRAND FORKS, N. Dak., U.S.A.
(no embryological work in progress)

SOBELS, F. H. Ph.D. — Genet. Inst. der Rijks Univ., Stationsstraat 9,
UTRECHT, Holland

SOBEY, W. R. Ph.D. — C.S.I.R.O. Anim. Gen. Sect., c/o Dept of Zool.,
Univ. of Sydney, SYDNEY, N.S.W. Australia

SOUNHEIN, E. A.B. — Dept of Zool., Univ. of Calif., LOS ANGELES
24, Cal., U.S.A.

SPIEGEL, M. B.S., Ph.D. — Dept of Embryol., Div. of Biol., Calif. Inst.
of Technol., PASADENA 4, Cal., U.S.A.

SPIRITO, A. Dott., M.I.I.E., Prof. — Ist. di Biol. gen., Fac. di Med., S.
Pietro, PERUGIA, Italia

a. Origine e natura dei tumori. *Bufo spec. (Anura)*

SPOFFORD, W. R. Ph. D., Prof. — Dept of Anat., School of Med., State
Univ. of New York, 766 Irving Ave, SYRACUSE 10, N.Y., U.S.A.

a. Induction and determination in the neural plate. *Ambystoma maculatum*
(*Urodela*)

b. Experimental neurogenesis. *Ambystoma maculatum (Urodela)*

SPRATT, Jr, N. T. A.B., Ph.D., M.I.I.E., Prof. — Dept of Zool., Coll. of
Sci., Lit. and Arts, Univ. of Minnesota, MINNEAPOLIS 14, Minn.,
U.S.A.

a. Investigating the nutrient requirements essential to morphogenesis and
growth in the early stages of development (pre-streak and streak blasto-
derms). *Gallus domesticus (Aves)*

b. Survey of dehydrogenase enzymes in early embryos: 1. Localization of
enzyme activity. 2. Structural integrity and enzyme activity. *Gallus*
domesticus (Aves)

c. Regeneration. *Planaria spec. (Turbellaria)*, *Tubularia spec. (Coelente-
rata)*

d. Cytological study of the developmental center (organizer). *Gallus do-
mesticus (Aves)*

e. Analysis of mechanism of morphogenetic movements by time-lapse cine-
matography. *Gallus domesticus (Aves)*

- f. Analysis of dynamic population patterns (Pattern formation by free-swimming, ciliated and flagellated organisms). *Tetrahymena* spec., *Euglena* spec. (Protozoa). *Arbacia punctulata* (Echinoidea)
- SRINIVASACHAR, H. R. B.Sc.(Hons), M.Sc., Ph.D. — Dept of Zool., Central College, BANGALORE 1, India
- a. Development of chondrocranium — basis for classification and evolution. (Pisces)
- b. Development of osteocranium — centres of ossification, etc. (Siluroidea)
- SRIVASTAVA, M. D. L. D.Sc., F.N.A.Sc. — Dept of Zool., Allahabad Univ., ALLAHABAD, India
- STAGNI, Miss A. M. — Ist. di Zool., Via S. Giacomo 9, BOLOGNA, Italia
- a. Régénération. (*Hydra*)
- STAM, F. — Anat.-Embryol. Lab., Free Calvinistic Univ., Pr. Hendriklaan 27, AMSTERDAM Z, Holland
- a. The influence of hypoxaemia during gravidity on the development of the cerebellum of the foetus. *Rattus norvegicus* (Rodentia) (in collaboration with F. Van FAASSEN and F. C. SCHOLTEN)
- STARCK, D. Dr med., F.I.I.E., o. Prof. — Dr Senckenberg. Anat. Inst., Med. Fak. der Univ., Ludwig Rehnstr. 14, FRANKFURT/Main-Süd, Deutschland
- STARK, O. J. Dr rer.nat. — Zool. Inst. der Univ., Katharinenstrasse 20, FREIBURG i. Brsg., Deutschland
- STEFAN, Miss Y. Lic. ès Sci. — Lab. de Zool. et d'Embryol. expér., Inst. de Zool. et de Biol. génér., 12 Rue de l'Université, STRASBOURG, France
- a. Morphogénèse du tractus génital et des gonades. *Emys leprosa* (Chelonia), (*Ophidia*) (en collaboration avec J. H. VIVIEN)
- STEFANELLI, A. Dr, F.I.I.E., Prof.ord. — Ist. di Anat. comp. „G. B. Grassi“, Fac. di Sci., Univ. di Roma, Via Borelli 50, ROMA, Italia
- a. Histogenetic determination and differentiation of nervous cells. (Teleostei, *Amphibia*, *Aves*)
- b. Degeneration and regeneration of nervous cells. (Teleostei, *Amphibia*, *Aves*)
- c. Social behaviour of cultivated cells. (*Amphibia*, *Aves*)
- d. Correlated and partial movements of spermatozoa. (*Amphibia*, *Aves*)
- e. Cytochemistry of development and regeneration. (*Amphibia*, *Aves*)
- STEIN, Miss K. F. A.B., M.S., Ph.D. — Dept of Zool., Mount Holyoke Coll., SOUTH HADLEY, Mass., U.S.A.
- a. Development of an abnormal homozygote due to the looptail gene (Lp). *Mus musculus* (Rodentia)
- b. Histochemical study of normal development and of the abnormal homozygote LpLp. *Mus musculus* (Rodentia)
- STEINBERG, D. M. Prof. — Zool. Inst. of the Acad. of Sci. of the U.S.S.R., Universitetskaja Nabereznaja 1, LENINGRAD 164, U.S.S.R.
- STEINBERG, M. S. B.A., M.A., Ph.D. — Dept of Embryol., Carnegie Inst. of Washington, Wolfe and Madison Sts, BALTIMORE 5, Md, U.S.A.
- a. Electrophoretic separation of living embryonic cells. *Triturus pyrrhogaster* (Urodela), *Gallus domesticus* (*Aves*)
- b. Cellular interactions during differentiation. *Triturus pyrrhogaster* (Uro-

- c. Chemically effected transformation of embryonic tissues. *Triturus pyrrhogaster* (*Urodela*)

STEINER, H. Ph.D., Prof. — Zool.-vergl. Anat. Inst., Naturw. Fak., Univ. Zürich, Künstlergasse 16, ZÜRICH 6, Schweiz

STEINITZ, H. Ph.D. — Dept of Zool., Hebrew Univ., JERUSALEM, Israel

- a. Regeneration of retina from pigment epithelium. (*Urodela*)
b. Lens regeneration from iris. (*Urodela*)
c. Histogenesis of retina in normal development and regeneration. (*Amphibia*)

STENGER—HAFFEN, Mrs K.E. Dr ès Sci. — Lab. d'Embryol. expér. du Coll. de France, et Lab. d'Embryol. et de Tératol. expér. du C.N.R.S., 11 Place Marcelin Berthelot, PARIS Ve, France

- a. Etude du développement et de la régression du mésonéphros. *Gallus spec.* (*Aves*)
b. Recherches sur la différenciation *in vitro* des gonades embryonnaires. (*Aves*) (en collaboration avec Et. C. WOLFF)
c. Recherches sur les besoins nutritifs des gonades embryonnaires en culture *in vitro*. (*Aves*)

STÉPHAN, Fr. Dr ès Sci. — Lab. de Zool. et d'Embryol. expér., Inst. de Zool. et de Biol. génér., 12 Rue de l'Université, STRASBOURG, France

- a. Formation du système vasculaire extraembryonnaire et son extension. Développement du cœur et des gros troncs artériels de l'embryon. *Gallus gallus* (*Aves*)
b. Etude expérimentale des anomalies et des suppléances vasculaires dans l'aire extraembryonnaire et l'embryon. *Gallus gallus* (*Aves*)

STÉPHAN-DUBOIS, Mrs Fr. Dr ès Sci. — Lab. de Zool. et d'Embryol. expér., Inst. de Zool. et de Biol. génér., 12 Rue de l'Université, STRASBOURG, France

- a. Migration et différenciation des cellules de régénération. (*Planariidae* d'eau douce, *Oligochaeta microdrila*, *Polychaeta errantia*)

STEPHENSON, N. G. M.Sc., Ph.D. — Zool. Dept, Univ. of Sydney, SYDNEY, Australia

STEVENS, L. Ph.D. — Roscoe B. Jackson Memorial Lab., BAR HARBOR, Me, U.S.A.

- a. Histogenesis of testicular teratoma (strain 129). *Mus musculus* (*Rodentia*)
b. Study of a genetic defect affecting blood formation, body size and tail morphogenesis. *Mus musculus* (*Rodentia*)

STINSON, B. D. B.S., M.S. — Dept of Zool., Columbia Univ., Broadway and 116th St, NEW YORK 27, N.Y., U.S.A.

- a. The influence of thyroid function on the radiosensitivity of the regenerating forelimb of larvae. *Ambystoma opacum* (*Urodela*)
b. The influence of cysteine on the suppression of regeneration capacity in larvae by x-irradiation. *Desmognathus fuscus*, *Ambystoma opacum*, *A. tigrinum*, *A. maculatum* (*Urodela*)
c. An experimental analysis of x-ray-induced digit regression in intact forelimbs of the adult animal. *Triturus viridescens* (*Urodela*)

STOCK, A. D.Phil., Ph.D. — Dept of Zool., Univ. of New England, ARMIDALE, N.S.W., Australia

- a. Regeneration and the endocrine system. *Blattella germanica* (*Dictyoptera, Insecta*) (in collaboration with A. F. O'FARRELL and Miss J. MORGAN)
- STOCKARD, A. H. Ph.D. — Dept of Zool., Univ. of Michigan, ANN ARBOR, Mich., U.S.A.
- a. Normal embryology. *Percina caprodes* (*Percoidea, Teleostei*), *Necturus maculosus* (*Urodela*)
- STONE, L. S. Ph.D., F.I.I.E., Prof. — Anat. Dept, School of Med., Yale Univ., 333 Cedar St, NEW HAVEN 11, Conn., U.S.A.
— Osborn Zool. Lab., Yale Univ., NEW HAVEN 11, Conn., U.S.A.
- a. Regeneration of retina, iris and lens from retina pigment cells. (*Urodela*)
- b. Factors controlling the inhibition and release of lens regeneration. (*Urodela*)
- c. Tissue culture studies of lens regeneration from the iris. (*Urodela*)
- d. Tissue culture studies of retina pigment cells. (*Urodela* and *Mammalia*)
- e. Development of vision in transplanted eyes. (*Urodela*)
- STOUT, Miss V. M. M.Sc., Ph.D. — Dept of Zool., Canterbury Univ. Coll., CHRISTCHURCH, New Zealand
- a. Descriptive embryology. *Lepidurus apus* (*Notostraca, Crustacea*)
- b. Descriptive embryology. *Daphnia magna* (*Cladocera, Crustacea*)
- STRAHAN, R. M.Sc. — Dept of Zool., Univ. of Hong Kong, HONG KONG
(no embryological work in progress)
- STRAUSS, F. M.D. — Anat. Inst., Bühlstr. 26, BERN, Schweiz
- a. The oviduct during the passage of the egg. (*Mammalia*)
- b. Comparative implantation. (*Mammalia*)
- STROËVA, Miss O. G. Cand.Biol.Sci. — Inst. of Animal Morphol. of the Acad. of Sci. of the U.S.S.R., Bolshaja Kalushskaja 33, MOSCOW V-71, U.S.S.R.
- a. Analysis of the capacity of the eyes of adult animals to regenerate the retina. *Bombina bombina* (*Anura*), *Rattus norvegicus* (*Rodentia*)
- b. Analysis of the conditions of embryonic segregation of the eye rudiment. *Rattus norvegicus* (*Rodentia*)
- c. The action of certain substances on the capacity of parts of the eye of transformations, especially of pigment epithelium into retina, in tadpoles. *Rana arvalis*, *Pelobates fuscus* etc. (*Anura*)
- STRUDEL, G. Dr ès Sci. — Lab. d'Embryol. expér. du Coll. de France, et Lab. d'Embryol. et de Tératol. expér. du C.N.R.S., 11 Place Marcelin Berthelot, PARIS Ve, France
- a. La différenciation sexuelle, par les méthodes de greffes, de castration, d'injections d'hormones et d'explantations. Différenciation normale et inversion sexuelle des gonades, des voies génitales et des caractères somatiques précoces. *Gallus spec.*, *Anas spec.* (*Aves*) (en collaboration avec Et. C. WOLFF, Mrs D. SCHEIB—PFLEGER, Miss B. SALZGEBER and A. HAMPÉ)
- STUART, E. G. Dr — Dept of Anat., School of Med., Univ. of Pennsylvania, PHILADELPHIA 4, Pa, U.S.A.
- STUCHLY, Z. Dr, Prof. — Zakład Biol. Ogólnej, Akad. Med., ul. Bujwida 9, WROCLAW, Poland
- a. Influence of blockade of the reticulo-endothelial system on metamorphosis (*Amphibia*)

- STULTZ, W. A. B.A., Ph.D. — Dept of Anat., Coll. of Med., Univ. of Vermont, BURLINGTON, Vt, U.S.A.
- Studies on the structure and function of the spinal cord, trunk and limbs following removal or transplantation of central nervous tissue. *Ambystoma punctatum (Urodela)*
 - Limb development and function following reciprocal transplantations of brachial and lumbo-sacral cord segments. *Ambystoma punctatum (Urodela)*
 - A comparison of the effects following reversal of the brachial and lumbo-sacral cord segments. *Ambystoma punctatum (Urodela)*
- SUGINO, H. D.Sc., Prof. — Osaka Lib. Arts Univ., Hirano, Higashi-sumiyoshiku, OSAKA, Japan
- Transplantation experiments. *Dugesia gonocephala (Tricladidea)*
- SUGIYAMA, M. M.A., D.Sc. — Marine Biol. Station, Nagoya Univ., Sugashima-cho, TOBA, Mie-ken, Japan
- Physiological studies on fertilization and artificial parthenogenesis. *Hemicentrotus pulcherrimus, Pseudocentrotus depressus (Echinoidea)* (in collaboration with M. ISHIKAWA)
- SUKIRNA, M. Prof. — Fakultas Kedokteran, Universitas Indonesia, Bag. Ilmu Djaringan Tubuh, Salemba no. 6, DJAKARTA, Indonesia
- SULLIVAN, G. E. M.Sc. — Dept of Zool., Univ. of Sydney, SYDNEY, N.S.W., Australia
- SUNDELL, L.-E. Fil.mag. — Inst. for Zoophysiol., Uppsala Univ., UPPSALA, Sweden
- Physiological and chemical studies in yolk. (*Pisces, Amphibia*)
- SUNDELL—THORSELL, Mrs G. Fil.Kand. — Inst. for Zoophysiol., Uppsala Univ., UPPSALA, Sweden
- The primary sex rate. (*Mammalia*) (in collaboration with P. E. LINDAHL)
- SWANN, M. M. M.A., Ph.D., Prof. — Dept of Zool., Univ. of Edinburgh, West Mains Rd, EDINBURGH 9, Scotland
- Fertilization and cleavage. (*Echinoidea*)
 - Division and growth in micro-organisms.
- SWARTZ, G. E. B.A., M.A., Ph.D. — Dept of Biol., Univ. of Buffalo, BUFFALO 14, N.Y., U.S.A.
- SZARSKI, K. W. Ph.D. — Zakład Anat. Porównawczej, Inst. Zool. Uniw., ul. Sienkiewicza 21, WROCŁAW, Poland
- Development of the kidneys. (*Teleostei, Anura*)
 - Development of genital tracts and accessory glands. (*Chiroptera*)
- SZÉKELY, G. M.D. — Dept of Anat., Univ. Med. School, Dischka u 5, PÉCS, Hungary
- Investigations on the functional specificity of transplanted sensory ganglia of cranial nerves. *Pleurodeles Waltlii, Triturus vulgaris (Urodela)*
 - Early function of the pituitary gland during development. Especially start of adrenalcorticotrophic activity. *Gallus domesticus (Aves)*
- SZENTÁGOTHAJ, J. M.D., Prof. — Dept of Anat., Univ. Med. School, Dischka u 5, PÉCS, Hungary
- Analysis of spontaneous activity of transplanted larval spinal cord neurons. Especially effect of synapse-inhibitors (cholinesterase inhibitors, etc.) on impulse transmission in the grafted nervous tissue. *Pleurodeles Waltlii, Triturus cristatus (Urodela)*

- TAHARA, Y. — Lab. of Morphol., Osaka Lib. Arts Univ., IKEDA, Osaka-Pref., Japan
- a. Analysis of the determination of the lens. (*Amphibia*)
- TAHMISIAN, T. N. B.A., M.S., Ph.D. — Argonne National Lab., P.O. Box 299, LEMONT, Ill., U.S.A.
- a. Effects of ionizing irradiations on tissue differentiation and metabolism in embryos, *Melanoplus differentialis differentialis* Thomas (*Orthoptera*)
 - b. Dose rate effect upon teratogenesis. *Melanoplus differentialis differentialis* Thomas (*Orthoptera*)
 - c. Organelle induction and differentiation in spermatogenesis as effected by X irradiation. *Melanoplus differentialis differentialis* Thomas (*Orthoptera*)
- TAKAMI, T. — Dept of Physiol., Sericult. Exper. Stat., Koenji, Suginami-ku, TOKYO, Japan
- a. Embryology with special reference to the dormancy and activation of the hibernating egg. *Bombyx mori* L. (*Lepidoptera*)
 - b. Tissue culture and in vitro studies on the embryo, yolk cell and other egg components. *Bombyx mori* L. (*Lepidoptera*)
- TAKAMOTO, K. M.Sc. — Lab. Exper. Embryol., Inst. of Polytechn., Osaka City Univ., Minami-Ogimati, Kita-ku, OSAKA, Japan
- TAKATA, Miss C. B.Sc., M.A. — Biol. Inst., Fac. of Sci., Nagoya Univ., Chigusa-Ku, NAGOYA, Japan
- a. The effect of mesoderm and mesectoderm on the differentiation of isolated areas of the endoderm of the neurula. *Triturus* spec. (*Urodela*) (in collaboration with T. YAMADA)
- TAKATA, K. M.A. — Biol. Inst., Fac. of Sci., Nagoya Univ., Chigusa-Ku, NAGOYA, Japan
- a. Studies on the ribonucleoproteins isolated from various tissues. (*Mammalia*) (in collaboration with S. OSAWA)
 - b. Isolation of the bone marrow factor which is responsible for induction of mesodermal structures in the ectoderm of the gastrula. (*Amphibia*, *Mammalia*) (in collaboration with S. OSAWA and T. YAMADA)
- TAKAYA, H. Ph.D., M.I.I.E., Prof. — Biol. Lab., Dept of Sci., Kōnan Univ., KOBE, Japan
- a. Regional differentiation of the central nervous system. *Triturus* spec., *Hynobius* spec., *Bufo* spec., *Rana* spec. (*Amphibia*)
 - b. Production of situs inversus viscerum. *Triturus* spec., *Hynobius* spec., *Rana* spec., *Bufo* spec. (*Amphibia*)
 - c. Thermal influence upon the development of early embryo. *Triturus* spec., *Hynobius* spec., *Bufo* spec., *Rana* spec. (*Amphibia*)
- TAKEUCHI, K. B.Sc., M.A. — Biol. Inst., Fac. of Sci., Nagoya Univ., Chigusa-Ku, NAGOYA, Japan
- a. Necessary substances for egg formation and development. *Oryzias latipes* (*Teleostei*)
- TAKISAWA, A. B.M., M.D., Prof. — Anat. Inst., Gunma Univ., MAE-BASHI, Japan
- a. The skeletal muscles in the course of metamorphosis. *Bufo vulgaris* (*Anura*)
 - b. Histochemical study on the retina in development. *Bufo vulgaris* (*Anu-*
- TALBERT, G. B. B.S., M.A., Ph.D. — Dept of Anat., Coll. of Med., State Univ. of New York, 350 Henry St, BROOKLYN, N.Y., U.S.A.

- TAMANOI, I. M.Sc. — Dept of Biol., Fac. of Sci., Kyushu Univ., FUKUOKA, Japan
- a. Analysis of the organizing substances by means of immunological methods. (*Amphibia, Mammalia*)
- TARDENT, P. Dr — Stazione Zool., NAPOLI, Italia
- TARNUS, J. L. — Lab. d'Anat., Fac. de Méd. de Paris, 45 Rue des Sts Pères, PARIS VIe, France
- a. Développement du sympathique cervical. *Homo sapiens (Primates)* (en collaboration avec G. H. G. OLIVIER)
- TARTAR, V. Ph.D. — Dept of Zool., Univ. of Washington, SEATTLE 5, Wash., U.S.A.
- TAVARES DE SOUSA, A. Dr, Prof. — Inst. de Histol. e Embryol., Fac. de Med., COIMBRA, Portugal
- (no embryological work in progress)
- TEIXEIRA, Mrs I. — Inst. de Histol. e Embriol., Fac. de Med., Avenida 28 de Maio, LISBOA, Portugal
- a. Development of the area postrema. *Gallus domesticus (Aves)*
- TEMPLETON, M. A.B. — Dept of Anat., Med. School, Univ. of Kansas, LAWRENCE, Kansas, U.S.A.
- a. Microchemical study of glycogen in normal and aneurogenic limb muscle of the developing animal. *Gallus domesticus (Aves)* (in collaboration with B. S. WENGER)
- TENCER, Miss R. Lic. en Sci. — Lab. de Morphol. anim., Univ. libre de Bruxelles, 1850 Chaussée de Wavre, BRUXELLES-Auderghem, Belgique
- a. Synthesis of DNA. (*Aves*)
- b. Neural induction and precytolysis. *Ambystoma spec. (Urodela)*
- c. Metabolism during gastrulation. *Ambystoma spec. (Urodela)*
- TE WINKEL, Miss L. E. A.B., A.M., Ph.D. — Dept of Zool., Smith College, NORTHAMPTON, Mass., U.S.A.
- THEILER, K. Dr Med. — Anat. Inst. der Univ., Gloriastr. 19, ZÜRICH, Schweiz
- THIEBOLD, J. J. Lic. ès Sci. — Lab. de Zool. et d'Embryol. expér., Inst. de Zool. et de Biol. génér., 12 Rue de l'Université, STRASBOURG, France
- a. Morphogénèse des gonades et du tractus génital. (*Selachii, Teleostei*) (en collaboration avec J. H. VIVIEN et Th. MOHSEN)
- THILLARD, Miss M. J. Lic., Ing.Chim. — Lab. de Biol. Anim., Pavillon Curie, Univ. de Paris, 12 Rue Cuvier, PARIS Ve, France
- a. Growth of nerve fibres. *Gallus domesticus (Aves)*
- b. Development of epiphysis. *Gallus domesticus (Aves)*
- THOMASON, Miss D. M.A., Ph.D. — Tissue Culture Lab., Christie Hosp. & Holt Radium Inst., Withington, MANCHESTER 20, England
- a. The effects of ionizing radiations on developing embryos. *Xenopus laevis (Anura)*
- THOMPSON, A. P. D. B.Sc., M.B., Ch.B. — Dept of Anat., Med. School, Birmingham Univ., Edgbaston, BIRMINGHAM 15, England
- (no embryological work in progress)
- THOMPSON, T. E. B.Sc. — Dept of Zool., Univ. Coll. of North Wales, BANGOR, Caernarvonshire, N. Wales
- a. Life histories. (*Opisthobranchiata*)

- b. The embryology, larval ecology and metamorphosis of a littoral Dorid Nudibranchiate species, with special reference to the phenomena associated with the eutyneurous tendencies displayed in present-day Opisthobranchs. *Adalaria proxima* Alder & Hancock (*Polyceridae*, *Opisthobranchiata*)
- THORNTON, C. S. A.B., M.A., Ph.D. — Kenyon College, GAMBIER, Ohio, U.S.A.
- a. Effect on limb regeneration of apical epidermal cap inactivation by ultraviolet light. *Ambystoma talpoideum*, *A. tigrinum* (*Urodela*)
- b. Analysis of the manner in which transplanted body skin inhibits limb regeneration. *Ambystoma tigrinum*, *A. talpoideum* (*Urodela*)
- THURMOND, W. A.B., M.A. — Biol. Sci. Dept. Calif. State Polytechnic College, SAN LUIS OBISPO, Cal., U.S.A.
- a. The determination of onset of intermedin production and secretion. *Hyla Regilla* (*Anura*)
- b. Factors controlling the differentiation of the pars intermedia, homoplastically transplanted into albino larvae. *Hyla Regilla* (*Anura*)
- c. The determination of onset of production and secretion of a melanophore-stimulating substance produced by the neurohypophysis. *Hyla Regilla* (*Anura*)
- TIEDEMANN, H. Dr med., Dr rer.nat., Dr habil. — Heiligenberg-Inst., (17b), HEILIGENBERG, Kreis Ueberlingen/Bodensee, Deutschland
- a. Chemische Physiologie der Entwicklung. (*Amphibia*)
- TIEDEMANN—WAECHTER, Mrs H. Dr rer.nat. — Heiligenberg-Inst., (17b) HEILIGENBERG, Kreis Ueberlingen/Bodensee, Deutschland
- a. Chemische Physiologie der Entwicklung. (*Amphibia*)
- TIMMERMANS, C. J. — Genet. Inst. der Rijks Univ., 5e Binnenvestgracht 8, LEIDEN, Holland
- a. Abnormal imaginal development by ultrasonic treatment of embryo. *Drosophila melanogaster* (*Diptera*)
- TISNA-AMIDJAJA, D. A. Dr rer.nat. — Fak. Ilmu Pasti dan I. Alam, Bagian Zoology, Djl. Taman Sari 64, BANDUNG, Indonesia
- a. Standard food and growth curve. *Rhacophorus leucomystax*, *Bufo melanostictus* (*Anura*)
- b. Hybridization between the striped and non-striped variety. *Rhacophorus leucomystax* (*Anura*)
- TIXIER—VIDAL, Mrs A. — Lab. d'Histophysiologie, Coll. de France, Place Marcelin Berthelot, PARIS Ve, France
- a. Différenciation de la thyroïde embryonnaire en culture d'organe (méthode de WOLFF). *Gallus domesticus* (*Aves*)
- b. Apparition de la fonction thyroïdienne dans l'hypophyse embryonnaire (étude expérimentale). *Gallus domesticus* (*Aves*)
- TOIVONEN, S. I. Ph.D., F.I.I.E., Prof. — Zool. Lab., Univ. of Helsinki, P. Rautatiekatu 13, HELSINKI, Finland
- a. The specific action of heterogenous inductors. *Triturus spec.* (*Urodela*)
- b. Thyroid gland and adeno-hypophysis in normal and delayed metamorphosis. *Xenopus laevis* (*Anura*) (in collaboration with L. O. SAXÉN)
- c. Induction of mesoderm by killed inductors. *Triturus spec.* (*Urodela*)
- d. The inductive action of malignant tumors. *Triturus spec.* (*Urodela*) (in collaboration with L. O. SAXÉN)
- TOMITA, H. B.Sc., M.A. — Biol. Inst., Fac. of Sci., Nagoya Univ., Chigusa-Ku, NAGOYA, Japan

- a. Melanin formation in color phenotypes. *Oryzias latipes* (Teleostei) (in collaboration with T. YAMAMOTO and T. HISHIDA)
- b. Melanin formation. *Rhacophorus schlegeli* var. *arborea* (Anura)
- TOMLINSON, J. D. W. M.A., M.B., B.Chir. — Anat. Dept, London Hosp. Med. Coll., Turner St, LONDON E. 1, England
- TÖNDURY, G. F.I.I.E., Prof. — Anat. Inst. der Univ., Gloriastrasse 19, ZÜRICH, Schweiz
- TORREY, T. W. Prof. — Dept of Zool., Indiana Univ., BLOOMINGTON, Ind., U.S.A.
- TRACY, H. C. Ph.D., Prof. (Emer.) — Dept of Anat., Med. School, Univ. of Kansas, LAWRENCE, Kansas, U.S.A.
- a. Development of the nervous system in relation to behaviour. *Opsanus tau* (Pisces)
- b. Physiological stages in development. *Opsanus tau* (Pisces)
- TRAMPUSCH, H. A. L. Ph.D., M.I.I.E. — Anat.-Embryol. Inst., Municipal Univ. of Amsterdam, Mauritskade 61, AMSTERDAM O, Holland
- a. Studies concerning the effect of X-rays on embryonic development. Continuation of earlier experiments. (Urodela)
- b. Experiments designed to test relations of some inhibitors of embryonic development to the effect of X-rays. (Urodela, Rodentia) (in collaboration with J. van der BORDEN)
- c. Attempts to analyze the differences in regenerative capacity between Amphibia and Mammalia. *Ambystoma* spec. (Urodela), *Mus* spec. (Rodentia) (in collaboration with D. J. JOCHEMS)
- d. Studies aimed to investigate some inductive effects on regenerative blastemata. *Ambystoma mexicanum* (Urodela)
- TRINKAUS, J. P. M.A., Ph.D. — Josiah Willard Gibbs Research Lab., Yale Univ., NEW HAVEN, Conn., U.S.A.
- TRUSLOVE, Miss G. M. B.Sc., Ph.D. — Dept of Genetics, Univ. Coll. London, Gower St, LONDON W.C. 1, England
- a. Developmental genetics of skeletal mutants. *Mus musculus* (Rodentia)
- TSCHUMI, P. A. Dr — Anat. School, Univ. of Cambridge, CAMBRIDGE, England
- TUCHMAN-DUPLESSIS, H. M.I.I.E. — 67 Avenue Raymond Poincaré, PARIS, France
- TUCKER, R. D.V.M. — Dept of Vet. Anat. and Parasitol., School of Vet. Sci., Univ. of Queensland, Fairfield Rd, Yeerongpilly, BRISBANE, Queensland, Australia
- a. Crinogenesis of the salivary glands. *Gallus domesticus*, *Cavia cobaya*, *Bos taurus* (Amniota)
- b. Histogenesis of the digestive tract. *Bos taurus* (Artiodactyla)
- TUFT, P. H. M.A., Ph.D. — Dept of Zool., Univ. of Edinburgh, West Mains Rd, EDINBURGH 9, Scotland
- a. Embryonic growth: cell number, mass, density, uptake and distribution of water. *Rodnius* spec. (Hemiptera), *Brachydanio rerio* (Teleostei), *Xenopus laevis* (Anura)
- TUNG, T. C. Dr, F.I.I.E., Prof. — Lab. of Developm. Physiol., Inst. of Exper. Biol., Acad. Sinica, 865 Chang Ning Rd, SHANGHAI — Marine Biol. Lab., TSINGTWO, China
- TURNER, C. J. B.Sc. — Anat. Dept, London Hosp. Med. Coll., Turner St, LONDON E. 1, England

- TUSQUES, J. M. Dr en Méd., Dr ès Sci., Prof. — Lab. d'Histol., Fac. de Méd., 16, Quai Moncoussu, NANTES, France
- Analyse de l'action morphogénétique de la thyroxine. *Anguis [fragilis] (Lacertilia)*, *Rattus albinus (Rodentia)*, *Talpa Europaea (Insectivora)*
- TWITTY, V. C. Dr, F.I.I.E., Prof. — Dept of Biol. Sci., Stanford Univ., STANFORD, Cal., U.S.A.
- TYLER, A. Ph.D., F.I.I.E., Prof. — Dept of Embryol., Div. of Biol., Calif. Inst. of Technol., PASADENA 4, Cal., U.S.A.
- Physiology of fertilization. (*Echinoidea*)
 - Physiology of early development. (*Echinoidea, Polychaeta*)
 - Life-span, motility and metabolism of spermatozoa. (*Echinodermata, Annelida, Mollusca, Aves, Mammalia*)
 - Immuno-embryology. (*Echinodermata* etc.)
- UBBELS, Miss G. A. M.Sc. — Centrum voor Electronenmicroscopie, Janskerkhof 3, UTRECHT, Holland
- UBISCH, L. v. Dr jur. et phil., F.I.I.E., Prof. (Emer.) — PARADIS, Norge (no embryological work in progress)
- ULRICH, H. Dr phil., Prof. — Zool. Inst., Eidg. Technische Hochschule, Universitätsstr. 2, ZÜRICH, Schweiz
- Action of X-rays on nucleus and cytoplasm of eggs, and on embryological stages. *Drosophila melanogaster (Diptera)*
- URBANI, E. Lib.Doc., M.I.I.E. — Ist. di Anat. comp. dell'Univ., Fac. di Sci., Via Borelli 50, ROMA, Italia
- URBANI—MISTRUZZI, Mrs L. Dott. — Ist. di Anat. comp. dell'Univ., Fac. di Sci., Via Borelli 50, ROMA, Italia
- VACEK, Z. MUDr — Embryolog. ústav lékařské fak. Univ. Karlovy, Albertov 4, PRAHA II, Czechoslovakia
- Development of the innervation of the gonads. *Homo sapiens (Primates)*
 - Experimental analysis of the development of the autonomic nervous system. *Gallus domesticus (Aves)*
- VAHS, W. Dr Phil. — Zool. Inst. der Univ. Köln, Kerpenerstr. 13, KÖLN-LINDENTHAL, Deutschland
- Die Beeinflussung der Leistungsspezifität abnormer Induktoren in der Entwicklung. (*Amphibia*)
 - Histochemische Untersuchung der Induktionsvorgänge. *Triturus spec. (Urodela)*
 - Entwicklung unter dem Einfluss von Antimetaboliten. (*Urodela*)
- VAINIO, E. T. M.D. — Zool. Lab., Univ. of Helsinki, P. Rautatiekatu 13, HELSINKI, Finland
- Teratomas caused by xenoplastic transplantations of embryos and germinal layers. *Xenopus laevis, Triturus spec. (Amphibia)*
 - The antigenicity of different germinal layers. *Triturus spec. (Urodela)*
 - The immunological properties of experimental teratomas. *Triturus spec. (Urodela)*
- VAKAET, L. C. M.D. — Lab. of Anat., Fac. of Med., Univ. of Gent, Bylokekaai 1, GENT, Belgium
- VANDEBROEK, G. Dr Sc., Prof. — Lab. d'Embryol., Inst. de Zool., Univ. de Louvain, 71 Rue de Namur, LOUVAIN, Belgique
- VANDERHAEGE—HOUGARDY, Mrs F. Dr en Sci. — Lab. de Morphol. anim., Univ. libre de Bruxelles, 1850 Chaussée de Wavre, BRUXELLES-Auderghem, Belgique

- a. Nucleo-cytoplasmic relations in normal and tumour (Ascites) cells.
- VANNINI, E. Dr, M.I.I.E., Prof. — Ist. di Zool. e Anat. comp., Via Università 4, MODENA, Italia
- a. Cycle of the nucleic acids and nucleolar changes during oogenesis. (*Echinodermata, Pisces, Amphibia*)
- b. Development of the gonads and their embryological relations with the cortico-adrenal blastema. (*Amphibia, Aves, Mammalia*)
- c. Experimental analysis of the causal development of the gonads. (*Amphibia*)
- d. Experimental regeneration and genesis of the germ-cells. (*Polychaeta*)
- VENZKE, W. G. D.V.M., M.Sc., Ph.D. — Dept of Vet.Anat., Ohio State Univ., COLUMBUS 10, Ohio, U.S.A.
- a. Morphogenesis and physiology of pineal gland. (*Aves*)
- b. Morphogenesis and physiology of blood. (*Aves*)
- c. Experimental morphology of pineal gland. (*Bovidae, Mammalia*)
- VERDONK, N. H. B.Sc. — Zool. Lab. der Rijks Univ., Janskerkhof 3, UTRECHT, Holland
- a. Cell-lineage in normal and Li-treated embryos. *Limnaea stagnalis* (*Gastropoda*)
- VEREJSKAJA, Miss V. N. Cand.Biol.Sci. — Inst. of Animal Morphol. of the Acad. of Sci. of the U.S.S.R., Bolshaja Kalushskaja 33, MOSCOW V-71, U.S.S.R. L. (*Lepidoptera*)
- a. Influence of high temperatures on developmental processes. *Bombyx mori*
- b. Analysis of sterilizing effect of sublethal high temperatures on eggs infected with *Nosema bombycis*. *Bombyx mori* L. (*Lepidoptera*) (in collaboration with Mrs T. A. BEDNJAKOVA)
- VILLAFRANCA, G. W. de Ph.D. — Dept of Zool., Smith College, NORTHAMPTON, Mass., U.S.A.
- VINTEMBERGER, P. Dr Méd., Prof. — Inst. d'Embryol., Fac. de Méd., 1 Place de l'Hôpital, STRASBOURG, France
- a. Recherches sur le déterminisme de la symétrie bilatérale chez les Vertébrés. (*Amphibia, Aves*)
- VIVIEN, J. H. Dr ès Sci., Prof. — Lab. de Zool. et d'Embryol. expér., Inst. de Zool. et de Biol. génér., 12 Rue de l'Université, STRASBOURG, France
- a. Morphogénèse des gonades et du tractus génital. (*Selachii, Teleostei*) (en collaboration avec J. J. THIEBOLD et Th. MOHSEN)
- b. Morphogénèse et physiologie embryonnaire des glandes endocrines. (*Selachii, Teleostei*) (en collaboration avec R. RECHENMANN et J. SCHOTT)
- c. Analyse du processus de régulation et de paragénèse. (*Selachii*) (en collaboration avec Miss D. HAY et J. SCHOTT)
- d. Morphogénèse du tractus génital et des gonades. *Emys leprosa* (*Chelonia*), (*Ophidia*) (en collaboration avec Miss Y. STEFAN)
- e. Origine de la lignée germinale, morphogénèse et différenciation des gonades. *Xiphophorus Helleri*, *Lebistes reticulatus*, *Barbus spec.* (*Teleostei*) (en collaboration avec E. FOLLENIUS)
- VOGEL, N. W. — Dept of Zool., Indiana Univ., BLOOMINGTON, Ind., U.S.A.
- VOLPE, E. P. Ph.D. — Dept of Zool., Newcomb Coll. of Tulane Univ., NEW ORLEANS 18, Louisiana, U.S.A.

- a Embryonic temperature adaptations in various species. *Bufo americanus*, *B. terrestris*, *B. fowleri*, *B. woodhousei*, *B. valliceps* (Anura)
- b Inheritance of color patterns. *Rana pipiens* (Anura)
- VOY A. Dr. in Sci. — Lab. de Zool. Fac. des Sci., POITIERS, Vienne, France
- a Croissance régénération (Orthoptera)
- b Oeufs à développement rapide et oeufs à développement retardé. *Clonopsis* (Orthoptera)
- WADDINGTON C. H. Sc.D. F.R.S. F.I.E. Prof. — Inst. of Animal Genet. Univ. Dept. of Genet. King's Buildings, West Mains Rd., EDINBURGH 9, Scotland
- a Metabolism of radio-isotopes. *Triturus spec.* (Urodela) (in collaboration with J. L. SIPLIN)
- b Phenocopies. *Drosophila spec.* (Diptera)
- c Developmental effects of metabolic antagonists. (Vertebrata, Vertebrata) (in collaboration with Miss M. M. PERRY and F. BILLET)
- d Electron microscope studies of gene action. (in collaboration with Miss M. M. PERRY and E. OKADA)
- e Differentiation of cartilage. (*Amphibia*), *Mus musculus* (Rodentia) (in collaboration with T. OKADA)
- f Study of certain features of developing embryos using electronmicrographs of ultrathin sections and cytochemical techniques. *Drosophila melanogaster* (Diptera), (*Amphibia*) (in collaboration with G. G. SELMAN and Miss M. M. PERRY)
- WAELSCH, Mrs S. GLUECKSOHN. Ph.D. — Dept. of Anat., Albert Einstein Coll. of Med., Eastchester Road, NEW YORK 61, N.Y., U.S.A.
- a Development of the secondary palate. *Mus musculus* (Rodentia)
- b Developmental physiology. *Mus musculus* L. (Rodentia)
- WAGNER G. Ph.D. — Sonnenrain, Itigen, BERN, Schweiz
- WAIDYASEKARA, L. B.Sc. (Hons) — Dept. of Zoology, Presidency Coll., College St. CALCUTTA 12, India
- a Effects of chemical transport in morphogenesis. *Amoeba spec.* (Protozoa) (in collaboration with S. MOOKERJEE)
- WALKER B. E. B.Sc., M.Sc., Ph.D. — Dept. of Anat., McGill Univ., MONTREAL, Quebec, Canada
- a Development of the secondary palate. *Mus musculus* (Rodentia)
- b Embryology of cortisone induced cleft palate. *Mus musculus* (Rodentia)
- WALKMEISTER, A. Zool.-vergl. Anat. Inst., Naturw. Fak., Univ. Zürich, Kunstlergasse 16, ZURICH 6, Schweiz
- WATANABE T. Dr. Biol. Lab., Dept. of Sci., Kōnan Univ., KOBE, Japan
- a Thermal influence upon the development of early embryo. *Triturus spec.*, *Hyalobius spec.*, *Bufo spec.*, *Rana spec.* (*Amphibia*)
- WATERMAN A. J. M.I.E. — 5 Chapin Court, Williams College, WILLIAMSTOWN, Mass., U.S.A.
- WATTEPSON, P. L. Ph.D., M.I.E. — Cresap Biol. Lab., Northwestern Univ. EVANSTON III, U.S.A.
- a The effects of colchicine upon development of the neural tube. *Gallus domesticus* (Aves)
- b The effects of nitrogen mustard upon development of the neural tube and its intraneural vascular pattern. *Gallus domesticus* (Aves)

- c. Modified ribs produced by exposure of the thoracic region of 2-day embryos to nitrogen mustard. *Gallus domesticus* (Aves)
 - d. Effects of hypophysectomy upon development of the liver, spleen, long bones, blood, feather germs, and vascularity of the glycogen body, and upon the alkaline phosphatase content of the glycogen body. *Gallus domesticus* (Aves)
 - e. Reduced endocrine activity of ovaries of hypophysectomized embryos as indicated by modified development of the genital tubercle and syrinx. *Anas domesticus* (Aves)
 - f. Development of the liver following its inhibition by aminoguanidine. *Gallus domesticus* (Aves)
 - g. Spina bifida at the lumbosacral level of hypophysectomized embryos and its effect on development of the glycogen body. *Gallus domesticus* (Aves)
 - h. Modifications of the glycogen content of the glycogen body of the embryo by injections of insulin and adrenalin. *Gallus domesticus* (Aves)
- WEBER, A. F.I.I.E., Prof. (Emer.) — Lab. de Neurohistol., Inst. d'Anat., Ecole de Méd., 20 Rue École de Méd., GENÈVE, Suisse
- a. Développement du système nerveux
- WEBER, R. D.Phil.nat. — Zool. Inst. der Univ. Bern, Sahlistr. 8, BERN, Schweiz
- a. Biochemistry of mitochondria during embryonic development. *Tubifex rivulorum* (Oligochaeta), *Xenopus laevis* (Anura)
 - b. Submicroscopical structure of the egg. *Tubifex rivulorum* (Oligochaeta), *Xenopus laevis* (Anura)
- WEDIN, B. Dr — Försvarets Forskningsanstalt, Avdelning 1, SUNDBYBERG 4, Sweden
- WEGLARSKA, Miss B. B.Sc. — Zool. Dept of the Jagiellonian Univ., St Anne 6, KRAKOW, Poland
- a. Descriptive embryology. *Hypsibius megalonyx* (Eutardigrada)
 - b. Histochemical studies on development. *Melasoma populi* L. (Coleoptera) (in collaboration with Cz. JURA and A. KRZYSZTOFOWICZ)
- WEISS, L. B. — Dept of Anat., Harvard Univ., Med. School, 25 Shattuck St. BOSTON 15, Mass., U.S.A.
- WEISS, P. A. Ph.D., M.D. (hon.c.), F.I.I.E., Prof. — Dept of developm. Biol., Rockefeller Inst. for Med. Res., 66th St and York Ave. NEW YORK 21, N.Y., U.S.A.
- WEISZ, P. B. B.S., Ph.D. — Arnold Biol. Lab., Brown Univ., PROVIDENCE 12, R.I., U.S.A.
- a. Study of morphogenesis. *Stentor* spec., *Blepharisma* spec. (Ciliata)
 - b. Study of cell division. *Stentor* spec. (Ciliata), *Rana pipiens* (Anura), *Mus norvegicus albinus* (Rodentia)
- WELANDER, A. D. B.S., M.S., Ph.D. — Fisheries Center, Univ. of Washington, SEATTLE 5, Wash., U.S.A.
- a. Effects of graded sublethal to lethal doses of X-rays on several different stages of the embryo. *Oncorhynchus kisutch* (Teleostei)
- WELLER, E. M. A.B., M.S. — Dept of Zool., Univ. of Calif., LOS ANGELES 24, Cal., U.S.A.
- WELLS, L. J. Ph.D., Prof. — Dept of Anat., School of Med., Univ. of Minnesota, MINNEAPOLIS 14, Minn., U.S.A.
- a. Formation of the inguinal bursa. *Homo sapiens* (Primates)

- b. Fetal endocrinology including a study of experimental diabetes and pregnancy. *Mus rattus* (*Rodentia*)
- WENDT, G. G. Dr med. — Anat. Inst. der Univ., Robert Kochstr. 6, MARBURG/Lahn, Deutschland (no embryological work in progress)
- WENGER, B. S. B.S., M.S., Ph.D. — Dept of Anat., Med. School, Univ. of Kansas, LAWRENCE, Kansas, U.S.A.
- Experimental and microchemical analysis of the developing nervous system and its relationship to peripheral structures. *Gallus domesticus* (*Aves*)
 - Microchemical study of glycogen in normal and aneurogenic limb muscle of the developing animal. *Gallus domesticus* (*Aves*) (in collaboration with M. TEMPLETON)
 - Histochemical and microchemical study of lipids in the nervous system of the developing animal. *Gallus domesticus* (*Aves*)
 - Cytochemical and microchemical study of the developing nervous system and its relationship to developing behavior patterns. Acid and alkaline phosphatase in isolated areas of brain and spinal cord. *Ambystoma maculatum* (*Urodela*) (in collaboration with P. G. ROOFE and Mrs E. L. WENGER)
- WENGER, Mrs E. L. B.A., M.A., Ph.D. — Dept of Anat., Med. School, Univ. of Kansas, LAWRENCE, Kansas, U.S.A.
- Cytochemical and microchemical study of the developing nervous system and its relationship to developing behavior patterns. Acid and alkaline phosphatase in isolated areas of brain and spinal cord. *Ambystoma maculatum* (*Urodela*) (in collaboration with B. S. WENGER and P. G. ROOFE)
 - Histochemical study of the developing nervous system and its relationship to developing behavior patterns. DNA, RNA, acid and alkaline phosphatase. *Ambystoma maculatum* (*Urodela*) (in collaboration with L. KELLER and P. G. ROOFE)
- WENIGER, J. P. Lic.ès Sci — Lab. de Zool. et d'Embryol. expér., Inst. de Zool. et de Biol. génér., 12 Rue de l'Université, STRASBOURG, France
- Associations d'organes embryonnaires de même espèce et d'espèce différentes en culture *in vitro*; gonades, intestin. (*Aves*, *Mammalia*)
- WESTHUIZEN, C. M. v. d. M.Sc. — Zool. Inst., Univ. of Stellenbosch, STELLENBOSCH, South Africa
- Ontogenesis of the skull. *Heleophryne purcellii* (*Anura*)
- WESTON, J. C. A.B., M.S., Ph.D. — Dept of Anat., Ohio State Univ., COLUMBUS 11, Ohio, U.S.A.
- A study at the cellular level of the effect of cortisone on certain biochemical constituents of the developing liver. *Gallus domesticus* (*Aves*)
- WHITING, H. P. M.A., Ph.D. — Dept of Zool., The Univ., BRISTOL 8, England
- Development of the nervous system and behaviour pattern. *Scylliorhinus canicula*, *Petromyzon fluviatilis*, *Salmo* spp. (*Pisces*) (in collaboration with J. E. HARRIS)
- WILDE, Jr, C. E. A.B., A.M., Ph.D., M.I.I.E. — Dept of Pathol., School of Dentistry, Univ. of Pennsylvania, PHILADELPHIA 4, Pa, U.S.A.
- Organogenesis *in vitro* (limb bud, gills, cranial neural crest). *Ambystoma maculatum* (Shaw) (*Urodela*)

- b. Cellular differentiation (pigment cell; ectomesenchyme). 1. causal biochemistry of cellular differentiation. 2. differentiation of cytoplasmic fragments. *Ambystoma maculatum* (Shaw) (*Urodela*)
- c. Morphology and causal biochemistry of striated muscle differentiation. *Ambystoma maculatum* (Shaw) (*Urodela*)
- d. Continuous flow curtain electrophoresis of molecular constituents of specific embryonic anlagen and cell types. Fraction recovery and tissue culture of embryonic cells in the presence of selected fractions. *Ambystoma maculatum* (Shaw) (*Urodela*)
- WILENS, Miss S. W. A.B. — Osborn Zool. Lab., Yale Univ., NEW HAVEN 11, Conn., U.S.A.
- a. The movements of the endoderm in early stages studied with the use of vital dyes. (*Urodela*)
- WILLIAMS, J. B.Sc., M.B., Ch.B. — Dept of Biochemistry, Med. School, Univ. of Cambridge, CAMBRIDGE, England
- a. Chemistry of yolk proteins. *Gallus spec.* (*Aves*)
- WILLIAMS, R. G. A.B., M.S., M.D., Prof. — Dept of Anat., School of Med., Univ. of Pennsylvania, PHILADELPHIA 4, Pa, U.S.A.
- WILLIAMS, S. C. B.S., Ph.D. — Dept of Anat., School of Med., Univ. of Pennsylvania, PHILADELPHIA 4, Pa, U.S.A.
- WILLIER, B. H. B.S., Ph.D., Sc.D., F.I.I.E., Prof., — Dept of Biol., The Johns Hopkins Univ., Charles and 34th Sts, BALTIMORE 18, Md, U.S.A.
- a. Re-examination of the interactions of cortical and chromaffin cells in the development of the adrenal gland and its secretory activity. (*Aves*)
- b. Analysis of the nature of mechanisms operating in time and space in the development of rhythmic pigmentation design. (*Aves*)
- c. Formulation of principles and concepts appertaining to the development of hormonal milieu as a means of dynamic integration of the growing embryo.
- WILSON, J. G. B.A., M.A., Ph.D. — Dept of Anat., Coll. of Med., Univ. of Florida, GAINESVILLE, Florida, U.S.A.
- a. Mechanism of the teratogenic action of trypan blue. Teratogenic action of azo dyes (survey). *Rattus norvegicus albinus* (*Rodentia*)
- WILSON, J. W. Ph.D., Prof. — Arnold Biol. Lab., Brown Univ., PROVIDENCE 12, R.I., U.S.A.
- a. A study of mitotic activity and other cytological phenomena in liver regeneration. (*Vertebrata*)
- WILT, F. H. A.B. — Dept of Embryol., Carnegie Inst. of Washington, Wolfe and Madison Sts, BALTIMORE 5, Md, U.S.A.
- a. An analysis of the mechanism of conversion of porphyropsin to rhodopsin in the retina during metamorphosis, with the use of biochemical methods. *Rana catesbiana* (*Anura*)
- b. Cell and organ specific effects of structural analogues of pyridine nucleotide coenzymes and their precursors, tested *in vitro*. *Gallus gallus* (*Aves*)
- c. The role of induced enzyme formation in development, tested by attempting to induce galactokinase in presumptive embryonic muscle, *in vitro*. *Gallus gallus* (*Aves*)
- WIMSATT, W. A. A.B., Ph.D., M.I.I.E., Prof. — Dept of Zool., Cornell Univ., ITHACA, N.Y., U.S.A.

- a. Comparative placentology; histochemistry and histophysiology of placenta. (*Insectivora, Chiroptera, Ungulata, Carnivora*)
- WINDLE, W. F. B.S., M.S., Ph.D., Sc.D. — Section Devel. and Regen., Lab. of Neuroanat. Sci., NINDB, Nat. Inst. of Health, BETHESDA, Md, U.S.A.
- a. Factors influencing regeneration of nerve fibers in the central nervous system of adult animals. (*Mammalia*)
- b. Development of fiber tracts and nuclei in the brain. *Homo sapiens (Primates)*
- c. Effects of asphyxia neonatorum on brain structure and function. (*Various spp., especially Primates*)
- WINGSTRAND, K. G. Dr Phil. — Embryol. Dept., Zool. Inst., Univ. of Lund, LUND, Sweden
- WINOWSKA, Mrs J. M.Sc. — Zakład Anat. Porownawczej, Inst. Zool. Uniw., ul. Sienkiewicza 21, WROCŁAW, Poland
- a. Development of the air-bladder. (*Euphysoclisti, Teleostei*)
- †WISLOCKI, G. B. M.D., A.M., Sc.D., F.I.I.E., Prof. — Dept of Anat., Harvard Univ., Med. School, 25 Shattuck St, BOSTON 15, Mass., U.S.A. (deceased)
- WITSCHI, E. Ph.D., F.I.I.E., Prof. — Dept of Zool., State Univ. of Iowa, IOWA CITY, Iowa, U.S.A.
- a. Metabolism of normal and overripe eggs. (*Anura*)
- b. Malformations. (*Vertebrata*)
- c. Sex inheritance and differentiation (normal and experimental). *Rana spec., Bufo spec., Alytes spec., Xenopus spec. (Anura)*
- d. Parabiosis and hormones in sex differentiation. *Triturus torosus (Urodela)*
- e. Metamorphosis of the ear. (*Anura*)
- f. Embryologic and endocrine studies in adreno-gonadal relationships. (*Amphibia, Aves, Mammalia*)
- g. Nutritional conditions in the incubating egg. (*Aves*)
- h. The mechanism of ovulation. *Xenopus spec. (Anura)* (in collaboration with C. Y. CHANG)
- WOELLWARTH, C. v. Dr phil., M.I.I.E. — Heiligenberg-Inst., (17b) HEILIGENBERG, Kreis Ueberlingen/Bodensee, Deutschland
- a. Induktion des Nervensystems. (*Amphibia*)
- b. Induktionsfelder in Neurula- und Schwanzknospenstadium. (*Urodela*)
- WOERDEMAN, M. W. M.D., D.Sc., F.I.I.E., Prof. — Anat.-Embryol. Inst., Municipal Univ. of Amsterdam, Mauritskade 61, AMSTERDAM O, Holland
- a. Lensregeneration. (*Aves, Mammalia*)
- b. Induction in tissue cultures and potencies of cells in tissue culture. (*Aves, Mammalia*) (*Amphibia, Aves*)
- c. Development of specific substances during induction and regeneration.
- WOLFF, Mrs Em. Dr ès Sci. — Lab. d'Embryol. expér. du Coll. de France, et Lab. d'Embryol. et de Tératol. expér. du C.N.R.S., 11 Place Marcelin Berthelot, PARIS Ve, France
- a. Recherches sur la différenciation et les besoins nutritifs en culture *in vitro* de la syrinx de l'embryon. *Anas boschas, Gallus gallus (Aves)*
- b. Recherches sur les besoins nutritifs d'organes embryonnaires explantés et cultivés sur milieux synthétiques. (*Amniota*)

c. Culture de différentes tumeurs cancéreuses sur des organes embryonnaires explantés *in vitro* (en collaboration avec Et. C. WOLFF).

WOLFF, Et. C. Dr ès Sci., F.I.I.E., Prof. — Lab. d'Embryol. expér. du Coll. de France, et Lab. d'Embryol. et de Tératol. expér. du C.N.R.S., 11 Place Marcelin Berthelot, PARIS Ve, France

a. Recherches expérimentales sur l'embryologie et la tératologie. Monstres simples, monstres doubles et poly-embryonie. (*Aves*)

b. La différenciation sexuelle, par les méthodes de greffes, de castration, d'injections d'hormones et d'explantations. Différenciation normale et inversion sexuelle des gonades, des voies génitales et des caractères somatiques précoces. *Gallus spec.*, *Anas spec.* (*Aves*) (en collaboration avec Mrs D. SCHEIB—PFLEGER, Miss B. SALZGEBER, A. HAM-PÉ et G. STRUDEL)

c. Problèmes relatifs à la régénération. Origine des cellules de régénération et processus d'induction dans la régénération. *Polycelis nigra*, *Euplania lugubris* (*Turbellaria*), *Triturus cristatus* (*Urodela*)

d. Recherches sur la différenciation *in vitro* des caractères sexuels embryonnaires (gonades, canaux de Müller etc.) et de différents organes. Besoins nutritifs des organes en culture en milieux synthétiques. (*Amniota*) (en collaboration avec Mrs K. STENGER—HAFFEN, Mrs Em. WOLFF et Mrs M. A. KIENY)

e. Culture de cellules tumorales sur des explants d'organes *in vitro*: association d'organes embryonnaires et de tumeurs (en collaboration avec Mrs Em. WOLFF).

f. Association d'organes hétérogènes en culture *in vitro*. Association d'organes d'espèces et de classes différentes. Potentialités et affinités des cellules de tissus homologues et différents dans les associations hétérogènes. (*Aves*, *Rodentia*)

WOLSKY, A. Dr Phil., Prof. — Biol. Lab., Fordham Univ., NEW YORK 58, N.Y., U.S.A.

a. The physiology of pigment-controlling and bristle number-controlling genes, including the production of phenocopies. *Drosophila melanogaster* (*Diptera*), *Mormoniella vitripennis* (*Hymenoptera*), *Cricetus* (= *Mesocricetus*) *auratus* (*Rodentia*)

b. Regional differences in the development of the compound eye and their correlation with the central nervous system (optic tract). *Bombyx mori* (*Lepidoptera*), *Mormoniella vitripennis* (*Hymenoptera*)

c. „Compensatory hyperregeneration” and related regeneration phenomena. *Oncopeltus fasciatus* (*Hymenoptera*), *Triturus viridescens* (*Urodela*)

WOODGER, J. H. Prof. — Middlesex Hosp., Med. School, LONDON W. 1, England (U.K.)

WRBA, H. Dr rer.nat., Dr med. — Pathol. Inst. der Univ., Thalkirchnerstr. 36, MÜNCHEN, Deutschland

a. Stoffwechsel *in vitro*. (*Rodentia*)

b. Eihautbildung und Differenzierung *in vitro*. (*Rodentia*)

WURMBACH, H. Dr, Prof. — Entwicklungsgesch. Abt., Zool. Inst. der Univ. Bonn, BONN, Deutschland

a. Beeinflussung des Wachstums und der Differenzierung durch Wirkstoffe (Schilddrüsenhormon, Steroide, Thymuswirkstoffe). *Lebistes spec.*, *Xenopus laevis*, *Bufo spec.*, *Gallus spec.* (*Vertebrata*)

Wurmbach-Zot

- b. Formbildende Kräfte beim Wachstum (Wachstumsdynamik): formbildende Bedeutung der Gewebe. *Bufo* spec. (*Anura*), (*Aves*)
- WYTTENBACH, C. R. A.B., M.A. — Dept of Embryol., Carnegie Inst. of Washington, Wolfe and Madison Sts, BALTIMORE 5, Md, U.S.A.
- a. Chemodifferentiation of the embryonic nervous system. *Gallus gallus* (*Aves*)
- XAVIER MORATO, M. J. Prof. — Inst. de Histol. e Embriol., Fac. de Med., Avenida 28 de Maio, LISBOA, Portugal
- a. Development of the area postrema. *Oryctolagus cuniculus* (*Lagomorpha*)
- YAFFE, D. M.Sc. — Dept of Exper. Biol., Weizman Inst. of Sci., REHOVOTH, Israel
- a. The distribution and synthesis of organ-specific proteins: antigens and enzymes. *Gallus* spec. (*Aves*), *Mus* spec. (*Rodentia*) (in collaboration with M. FELDMAN)
- YAGIU, R. D.Sc., Prof. — Zool. Lab., Fac. of Sc., Hiroshima Univ., HIROSHIMA CITY, Japan
- YAJIMA, H. M.A. — Embryol. Section, Dept of Biol., Tokyo Metropolitan Univ., Setagaya-ku, TOKYO, Japan
- a. Embryonic determination. Harlequin-fly (*Diptera*)
- YAMADA, T. D.Sc., Prof. — Biol. Inst., Fac. of Sci., Nagoya Univ., Chigusa-Ku, NAGOYA, Japan
- a. Isolation of the bone marrow factor, which is responsible for induction of mesodermal structures in the ectoderm of the gastrula. (*Amphibia*, *Mammalia*) (in collaboration with K. TAKATA and S. OSAWA)
- b. Electronmicroscopic study of elaboration of the cell structures during the early phase of differentiation. *Triturus pyrrhogaster* (*Urodela*) (in collaboration with S. KARASAKI)
- c. The effect of mesoderm and mesectoderm on the differentiation of the isolated areas of the endoderm of the neurula. *Triturus* spec. (*Urodela*) (in collaboration with Miss C. TAKATA)
- YAMAMOTO, K. M.Sc., D.Sc., Prof. — Lab. of Fresh-water Fish Culture, Dept of Biol., Fac. of Fish., Hokkaido Univ., HAKODATE, Japan
- a. Studies on the formation of eggs. (*Teleostei*)
- YAMAMOTO, T. D.Sc., Prof. — Biol. Inst., Fac. of Sci., Nagoya Univ., Chigusa-Ku, NAGOYA, Japan
- a. On the mechanism of fertilization and activation. *Oryzias latipes* (*Teleostei*)
- b. Artificial induction of functional sex-reversal. *Oryzias latipes* (*Teleostei*)
- c. Melanin formation in color phenotypes. *Oryzias latipes* (*Teleostei*) (in collaboration with T. HISHIDA and H. TOMITA)
- YAMAMOTO, T. S. M.Sc. — Dept of Zool., Fac. of Sci., Hokkaido Univ., North 8, West 5, SAPPORO, Japan
- a. Cytochemical investigation on development. (*Teleostei*) (in collaboration with Y. KANO)
- YANAGISAWA, T. — Biol. Inst., Shizuoka Univ., Oiwa - 2, SHIZUOKA CITY, Shizuoka, Japan *phibia*)
- a. Phosphate metabolism during embryogenesis and metamorphosis. (*Amphibia*)
- b. Phosphate metabolism during embryogenesis. (*Echinodermata*)
- YANAI, T. Ph.D. — Dept of Biol., Shimane Univ., MATSUE, Shimane-ken, Japan

- YAO, T. Ph.D. — Lab. of Developm. Physiol., Inst. for Exper. Biol., Acad. Sinica, 865 Chang Ning Rd, SHANGHAI, China
- YNTEMA, C. L. Ph.D., F.I.I.E., Prof. — Dept of Anat., School of Med., State Univ. of New York, 766 Irving Ave, SYRACUSE 10, N.Y., U.S.A.
- Induction and differentiation of ear ectoderm. *Ambystoma punctatum* (*Urodela*)
 - Regeneration of aneural limbs. *Ambystoma punctatum* (*Urodela*)
 - Development of autonomic nervous system. *Gallus domesticus* (*Aves*) (in collaboration with W. S. HAMMOND)
 - Development of the visceral skeleton. *Gallus domesticus* (*Aves*) (in collaboration with W. S. HAMMOND)
- YOSHIKURA, M. Dr — Dept of Biol., Fac. of Sci., Kumamoto Univ., KUMAMOTO-shi, Japan
- Comparative embryology. (*Araneae*, *Arachnoidea*)
 - Effect of light on the development of mygalomorph forms. *Atypus karschi*, *Ummidia fragaria* (*Araneae*, *Arachnoidea*)
- YOUNG, W. C. Ph.D., Prof. — Dept of Anat., Med. School, Univ. of Kansas, LAWRENCE, Kansas, U.S.A.
- Reproduction as influenced by hypothyroidism and hyperthyroidism in both males and females. *Cavia porcellus* (*Rodentia*)
 - Sexual behaviour in the male. *Cavia porcellus* (*Rodentia*)
- ZAAIJER, Miss J. J. P. Ph.D. — Lab. for Cytol. and exper. Histol., Fac. of Med., Univ. of Leyde, Rijnsburgerweg 10, Boerhaavekwartier, LEIDEN, Holland
- Cartilage and bone formation in vitro. *Homo sapiens* (*Primates*)
 - Muscle fibre development. *Homo sapiens* (*Primates*)
- ZAHND, J. P. — Inst. d'Embryol., Fac. de Méd., 1 Place de l'Hôpital, STRASBOURG, France
- Développement du squelette. Facteurs influençant le développement. *Anas spec.* (*Aves*)
- ZELLER, Ch. — Zool.-vergl. Anat. Inst., Naturw. Fak., Univ. Zürich, Künstlergasse 16, ZÜRICH, Schweiz
- ZENKER, W. Dr med. — Anat. Inst., Währingerstr. 13, WIEN 9, Oesterreich
- Development of the organon buccotemporale Chievitz. (*Mammalia*)
- ZEUTHEN, E. Dr phil., M.I.I.E. — Biol. Inst. of the Carlsberg Foundation, 16, Tagensvej, COPENHAGEN N, Denmark
- Study with Cartesian divers of mitotic rhythm in oxygen uptake and in carbon dioxide output during cleavage period. (*Echinoidea*, *Ciliata*)
 - Mitotic rhythm in reduced weight (weight below water) during cleavage. *Psammechinus microtuberculatus* (*Echinoidea*) (in collaboration with W. L. M. GEILENKIRCHEN, Utrecht)
 - Studies on the biochemistry and physiology of synchronized cell systems. *Tetrahymena pyriformis* (*Holotricha*, *Ciliata*) (in collaboration with K. HAMBURGER and P. PLESNER)
- ZIMMERMAN, A. A. M.I.I.E. — Dept of Anat., Coll. of Med., Univ. of Illinois, 1853 West Polk Street, CHICAGO 12, Ill., U.S.A.
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- a. Study of water metabolism in embryonic development. *Huso huso*, *Acipenser gildenstädti*, *A. stellatus* (*Acipenseriformes*, *Chondrostei*), *Salmo salar*, *Coregonus lavaretus* (*Clupeiformes*, *Teleostei*)
- ZUCKERMAN, S. M.A., M.D., D.Sc., M.R.C.S., L.R.C.P., F.R.S., Prof. — Dept of Anat., The Med. School, Birmingham Univ., Edgbaston, BIRMINGHAM 1, England
(no embryological work in progress)
- ZULEGER, S. Dr med. — Anat. Inst. der Univ., Robert Kochstr. 6, MARIENBURG/Lahn, Deutschland
(no embryological work in progress)
- ZWAN, A. Van der Med.Cand. — Anat.-Embryol. Lab., Free Calvinistic Univ., Pr. Hendriklaan 27, AMSTERDAM Z, Holland
- a. Investigation into the function of the epiphysis by means of contact tissue culture and chorio-allantoic transplantation.
- ZWEIBAUM, J. Dr, Prof. — Inst. of Histol. and Embryol., Acad. of Med., ul. Chałubińskiego 5, WARSZAWA, Poland
(no embryological work in progress)
- ZWILLING, E. Ph.D., M.I.I.E. — Dept of Anim. Genet., Coll. of Agric., Univ. of Connecticut, Storrs Agric. Exper. Stat., STORRS, Conn., U.S.A.
- a. Disaggregation and reaggregation of early embryos. Effects on differentiation. *Gallus domesticus* (*Aves*)
- b. Culture behaviour of early embryonic tissues. *Gallus domesticus* (*Aves*)
- c. Ectoderm-mesoderm interaction in limb development. *Gallus domesticus* (*Aves*)

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with Composition of Scientific Staffs

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- * MALAN, Miss M. E. Sen. Lect.
- ENGELBRECHT, D. van Z. Lect.
- KOCK, J. M. de Jun. Lect.

- Guest-Workers:
- * WESTHUIZEN, C. M. van der
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- * KING, T. S. Lect.
- * JOHNSON, F. R. Lect.
- * McMINN, R. M. H. Lect.

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- * FRANCIS, E. T. B. Reader in
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 - * THOMPSON, T. E.
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 - * LUCEY, E. C. A. (Cinematography)
 - * PANTELOURIS, E. M.
 - * SIRLIN, J. L.
 - * BILLET, F.
 - * PERRY, Miss M. M.
 - * OKADA, E.
 - * OKADA, T. S. (from Tokyo)
 - * BRAHMA, S. K.
 - * FROHLICH, A.
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DAINTY, J.
(no embryol. work in progress)

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Prof., Dir.
- * DRAGOMIROV, N. I. Prof.
 - * POLEZHAYEV, L. V. Prof.
- D.P. Filatov Lab. of Exp. Embryol.
- * ASTAUROV, B. L. Prof., Head
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 - * LOPASHOV, G. V. Prof.
 - * GINSBURG, Mrs A. S.
Research Workers:
 - * BEDNJAKOVA, Mrs T. A.
 - * STROEVA, Miss O. G.
 - * IGNATJEVA, Mrs G. M.
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SMIDT, G. A. Prof., Head
- Lab. of Gener. Embryol.
MATVEJEV, B. S. Prof., Head
- YUGOSLAVIA**
- Sarajevo, Fac. de Méd., Inst. d'Histol. et d'Embryol.
- MILIN, R. Prof., Head
- Zagreb, Salata, Fac. de Méd., Inst. de Biol.
- * SKREB, N. Docent
 - * LEVAK, B. Asst

LIST OF SUBJECTS

with Names of Investigators

(arranged according to organ systems and taxonomic groups)

GENERAL DIVISION

CLASSIFICATION INTO GENERAL RUBRICS

- I Descriptive and comparative embryology
- II Experimental developmental morphology
- III Physiology of development
- IV Development and genetics
- V Development and pathology
- VI Regeneration
- VII Metamorphosis

CLASSIFICATION OF TAXONOMIC GROUPS AND SPECIAL ORGAN-SYSTEMS (to be used for all rubrics)

Taxonomic subdivision

- PL Plants**
- EV Invertebrata**
 - P Protista
 - A Porifera
 - B Coelenterata
 - C Vermes and Onychophora, Tardigrada and Linguatulida
 - D Arthropoda
 - E Mollusca
 - F Bryozoa, Entoprocta, Brachiopoda and Hemichordata
 - G Echinodermata
 - H Urochordata and Cephalochordata
 - V **Vertebrata**
- LV Lower Vertebrates**
 - I Pisces
 - J Amphibia
- HV Higher Vertebrates**
 - K Reptilia
 - L Aves
 - M Mammalia

Subdivision of special organ systems

1 Skin

- a general subjects
- b exo-skeleton
- c teeth
- d hair, horns, nails
- e feathers
- f sense organs
- g glands
- h mammae
- i pigment cells and patterns

2 Nervous system

- a general subjects
- b central nervous system
 - 1 brain
 - 2 spinal cord
- c accessory organs
 - 1 paraphysis
 - 2 parietal organ
 - 3 pineal body
 - 4 hypophysis
- d ganglia
 - 1 cephalic ganglia
 - 2 spinal ganglia
- e nerves
 - 1 cephalic nerves
 - 2 spinal nerves
- f para- and sympathetic and intramural nervous system
 - 1 para- and sympathetic nervous system
 - 2 intramural nervous system
- g meninges

3 Special sense organs

- a nasal organ
- b eye
 - 1 eye
 - 2 lens
- c ear
- d lateral sense organs

4 Skeleton

- a general subjects
- b embryonic temporary endo-skeleton
- c skull and visceral skeleton
- d truncal skeleton
- e skeleton of extremities
- f joints

5 Muscular system

- a general subjects
- b skeletal muscles (head, trunk and tail)
- c visceral muscles (head and trunk)
- d muscles of extremities

6 Alimentary tract

- a general subjects
- b mouth- and pharyngeal cavities
- c intestinal tract
- d proctodaeum
- e salivary glands
- f liver
- g pancreas

7 Respiratory organs

- a general subjects
- b external gills

- c internal gills
- d lungs and larynx
- e air-bladder
- 8 Heart, vascular system and blood**
 - a general subjects
 - b heart
 - c,d arterial and venous system
 - e capillary system
 - f blood
- 9 Coelomic cavities and endothelia, lymphatic system and connective tissue**
 - a,b coelomic cavities and endothelia
 - c lymphatic tissue
 - d connective tissue
- 10 Urogenital system and sexual differentiation**
 - a general subjects
 - b,c kidneys; nephric ducts and bladder
 - d,e,f gonads (ovary and testis), genital tracts and accessory glands
 - g sexual differentiation
- 11 Endocrine glands**
 - a general subjects
 - b hypophysis
 - c thymus
 - d thyroid gland
 - e parathyroid glands
 - f gonads
 - g adrenals
 - h pancreas

I. DESCRIPTIVE AND COMPARATIVE EMBRYOLOGY

SUBDIVISION

- 1 *Theoretical problems and general questions*
- 2 *Methods and techniques*
- 3 *General subjects* (asexual development, reproduction, etc.)
- 4 *Initial development*
 - a General subjects
 - b Primordial germ cells
 - c Gameto-, ovo- and spermatogenesis
 - d Maturation
 - e Ovulation and oviposition
 - f Activation and fertilization
 - g Parthenogenesis
- 5 *Cleavage and mitosis*
 - a Cleavage
 - b Mitosis
- 6 *Further development of Invertebrates*
(including complete and partial — e.g. early — development)
- PL Plants
- EV Evertebrata
- P Protista

- A Porifera
- B Coelenterata
- C Vermes and Onychophora, Tardigrada and Linguatulida
- D Arthropoda
- E Mollusca
- F Bryozoa, Entoprocta, Brachiopoda and Hemichordata
- G Echinodermata
- H Urochordata and Cephalochordata
- 7 *Further development of Vertebrates*
(including complete and partial — e.g. early — development)
 - a General investigations
 - 1 General subjects
 - 2 Complete development
 - 3 Partial development
 - 4 Implantation and placentation
 - b Early development, gastrulation, etc.
 - 1 Early development
 - 2 Gastrulation and formation of germ layers
 - 3 Development of foetal membranes
 - c Neurulation, etc.
 - 1 Neurulation (s.s.)
 - 2 Development of neural crest
 - 3 First larval development
 - d Development of part of the organism
 - 1 Head
 - 2 Extremities
 - 3 Tail
 - e Development of special organ-systems
(Cf. general subdivision p. 153—155)
 - f Histo- and cytogenesis
- 8 *Growth and differentiation (Invertebrates and Vertebrates)*
 - a Growth
 - a/b Growth and differentiation
 - b Differentiation

1 *Theoretical problems and general questions*

2 *Methods and techniques*

Clark, H. — c

Sausser, G. — c

L

M

3 *General subjects*

(asexual development, reproduction, etc.)

Hale, L. J. — a

Nobili, R. — a

Papi, F. — a

Johnson, G. — a

Legrand, J. J. — d

B

C

C

D

D

Recourt, A. — a

Harvey, Mrs E. Browne — c

Gilbert, P. W. — a

Arslan, M. — a

4 *Initial development*

a *General subjects*

Shulov, A. — c

Harvey, Mrs E. Browne — f

Pasteels, J. — d

Dollander, A. — c

Dollander, A. — c

b *Primordial germ cells*

Reggiani, Miss M. P. — a

Laven, H. — a

E

G

I

M

D

G

G

J

M

C

D

- Follenius, E. and J. H. Vivien — a I
 Blackler, A. W. — a J
 Sembrat, K. — b J
 Gomes Ferreira, J. V. — a M
- c Gameto-, ovo- and spermatogenesis**
- Callan, H. G. — a
 Kemp, N. E. — c
 Franzén, Å. S. — a EV
 Benazzi-Lentati, Mrs G. — a C
 Ghirardelli, E. — b C
 Mirolli, M. — a C
 Reggiani, Miss M. P. — a C
 Bielańska-Osuchowska, Mrs Z. — b D
 Chishima, K. — a D
 Geigy-Heese, R. — b D
 Greca, M. La — a D
 Kawamura, K. — a D
 Kühn, A. — e D
 Larambergue, M. de — b E
 Raven, Chr. P. — d E
 Recourt, A. — a E
 Kanoh, Y. — a I
 Yamamoto, K. — a I
 Dollander, A. — d J
 Frazer, J. F. D. — a J
 Austin, C. R. — a M
 Bishop, M. W. H. — a M
 Butler, H. — a M
 Roosen-Runge, E. C. — a M
- d Maturation**
- Raven, Chr. P. — e E
 Moricard, R. — a M
- e Ovulation and oviposition**
- Alden, R. H. — a M
 Moricard, R. — a M
 Strauss, F. — a M
- f Activation and fertilization**
- Benazzi-Lentati, Mrs G. — a C
 Colwin, A. L. and Colwin, Mrs L. H. — a C
 Colwin, A. L. and Colwin, Mrs L. H. — a G
 Endo, Y. — a G
 Colwin, A. L. and Colwin, Mrs L. H. — a H
 Ginsburg, Mrs A. S. — a I
- Kanoh, Y. — a I
 Austin, C. R. — a M
 Bishop, M. W. H. — a M
 Moricard, R. — a, c M
- g Parthenogenesis**
- Laven, H. — b D
- 5 Cleavage and mitosis**
- a Cleavage**
- Harris, F. T. C. — a
 Jones, W. E. — a Pl
 Swann, M. M. — b P
 Weisz, P. B. — b P
 Nijenhuis, E. D. — c E
 Fujii, T. — a G
 Harvey, Mrs E. Browne — c G
 Salfi, M. — a H
 Weisz, P. B. — b J
 Weisz, P. B. — b M
 Corliss, C. E. — a M
 Fujii, T. — a M
- b Mitosis**
- 6 Further development of Invertebrates**
(including complete and partial — e.g. early — development)
- Pl Plants**
- Jones, W. E. — a
- EV Evertabrata**
- Mancuso, V. — b
- P Protista**
- Weisz, P. B. — a
 Fauré-Fremiet, E. and Hamard, Miss M. — a
- A Porifera**
- B Coelenterata**
- Deroux, G. — b
 Hale, L. J. — a
 Lallier, R. A. — e
 Sembrat, K. — a
- C Vermes and Onychophora, Tardigrada and Linguatulida**
- Bookhout, C. G. — a
 Gidholm, L. — a
 Hylbom, J. R. — a
 Jägersten, K. G. M. — a
 Manton, S. M. — a
 Monné, L. — a

- Nyholm, K. G. — a, b
 Paschma, M. — a
 Ranzoli, F. — b, c
 Węglarska, Miss B. — a
- D Arthropoda**
 Bergquist, H. — b
 Bookhout, C. G. — b
 Caspari, E. W. — b
 Chishima, K. — a
 Colombo, G. — b
 Costlow, J. D. — a
 Geigy-Heese, R. — b
 Holst Christensen, P. J. — a, b
 Ichikawa, A. — a
 Isings, J. — a
 Ito, T. — b
 Jura, Cz. — c
 Krause, G. — c
 Laven, H. — b
 Legrand, J. J. — b, d
 Lüscher, M. — b
 Manton, S. M. — b
 Martin, Miss B. A. — a
 Nakane, T. — a
 Nüesch, H. — c
 Perry, Miss M. M.,
 Waddington, C. H. and
 Selman, G. G. — b
 Pflugfelder, O. — d
 Portmann, A. — a
 Poulson, D. F. — a
 Rappaport, Jr, R. — b
 Sander, K. — a
 Schwartz, V. — a
 Seidel, F. — b
 Shiino, S. M. — a
 Stout, Miss V. M. — a, b
 Voy, A. — b
 Yoshikura, M. — a
- E Mollusca**
 Battle, Miss H. I. — e
 Burdon-Jones, C. — a
 Fonseca Sacarrão, G. da — a
 Ince, Miss F. E. — a
 Larambergue, M. de — a
 Recourt, A. — a
 Thompson, T. E. — a, b
 Verdonk, N. H. — a
- F Bryozoa, Entoprocta, Brachio-
 podo and Hemichordata**
 Burdon-Jones, C. — a
 Percival, E. — a
- G Echinodermata**
 Baltus, Miss E. — a
 Moore, A. R. — a
- H Urochordata and Cephalochor-
 data**
 Brewin, B. I. — a
 Olsson, R. — b
 Sabbadin, A. — c
 Salfi, M. — a
- 7 Further development of
 Vertebrates**
*(including complete and partial
 — e.g. early — development)*
- a General investigations**
General subjects
- | | |
|--|---|
| Ashley, G. T. — a | V |
| Sauser, G. — d | V |
| Battle, Miss H. I. — a | I |
| Gilbert, P. W. — b | I |
| Chishima, K. — b | J |
| Karasaki, S. — b | J |
| Moore, J. A. — b | J |
| Okano, H. — b | J |
| Perry, Miss M. M.,
Waddington, C. H. and
Selman, G. G. — b | J |
| Spratt Jr, N. T. — e | L |
| Austin, C. R. — a | M |
| Bishop, M. W. H. — a | M |
| Corner, G. W. — a | M |
| Hoessels, Miss E. L. M. J. — b | M |
| Latimer, H. B. — a | M |
| Nicholas, J. S. — a | M |
| Seidel, F. — a | M |
- Complete development*
- | | |
|----------------------------|---|
| D'Ancona, U. — b | V |
| Baxter, E. W. — a | I |
| Cambar, R. — f | I |
| Damas, H. F. C. — a | I |
| Davies, D. H. — a | I |
| Gilbert, P. W. — b | I |
| Jager, B. de — a | I |
| Stockard, A. H. — a | I |
| Cambar, R. — e | J |
| Sámano Bishop, Miss A. — b | J |
| Sirakami, K. I. — b | J |

- | | | | |
|--|----|--|----|
| Stockard, A. H. — a | J | Mossman, H. W. — a | M |
| Campenhout, E. van — c | K | Orsini, Mrs M. C. Ward — a | M |
| Pasteels, J. — a | K | Schröder, R. K. P. — a | M |
| Arslan, M. — a | M | c Neurulation, etc. | |
| Beatty, R. A. and
Lucey, E. C. A. — d | M | Nieuwkoop, P. D. — c | J |
| <i>Partial development</i> | | Spratt Jr, N. T. — d | L |
| Sedra, S. N. — a | J | <i>Neurulation (s.s.)</i> | |
| Kamel, A. — a | J | <i>Development of neural crest</i> | |
| Kamel, A. — a | K | Raunich, L. — d | J |
| Hoessels, Miss E. L. M. J. — a | L | Rossini, Miss M. C. — b | J |
| Lutz, H. — a | L | Flynn, T. Thomson — a | M |
| Over, H. J. — a | L | <i>First larval development</i> | |
| Butler, H. — a | M | Muchmore, W. B. — a | J |
| <i>Implantation and placentation</i> | | Blechs Schmidt, E. — a | M |
| Alden, R. H. — a | M | d Development of part of the
organism | |
| Backhouse, K. M. — b, c | M | <i>Head</i> | |
| Bartelmez, G. W. — a | M | Fox, H. — d | J |
| Böving, B. G. — a, b | M | Huber, W. — a | M |
| Boyd, J. D. and
Hamilton, W. J. — a | M | <i>Extremities</i> | |
| Gitlin, G. — c | M | Cauna, N. — b | V |
| Glenister, T. W. — b | M | François, Y. — a | I |
| Greulich, R. C. — a | M | Slabý, O. — b | HV |
| Hamilton, W. J. and
Harrison, R. J. — b | M | Camosso, Miss M. E. — a | L |
| Orsini, Mrs M. C. Ward — a | M | Saunders, J. W. — f, h | L |
| Ramsey, Miss E. M. — a | M | Cauna, N. — b | M |
| Strauss, F. — b | M | Olivier, G. H. G. and
Pineau, H. — c | M |
| Wimsatt, W. A. — a | M | Saunders, J. W. — f | M |
| b Early development, gastrulation,
etc. | | <i>Tail</i> | |
| Colombo, G. — a | J | e Development of special organ-
systems | |
| Islam, A. — b | J | <i>Skin</i> | |
| Nieuwkoop, P. D. — c | J | General subjects | |
| Lutz, H. — d | L | Lyne, A. G. — a | M |
| Backhouse, K. M. — b | M | Exo-skeleton | |
| Böving, B. G. — a, c | M | Teeth | |
| Glenister, T. W. — c | M | Leblond, C. P. — b | V |
| Pincus, G. — b | M | Friant, Mrs M. — b | M |
| <i>Early development</i> | | Kindahl, Miss M. — a | M |
| <i>Gastrulation and formation of
germ layers</i> | | Parrant, M. — a | M |
| Malan, Miss M. E. — a | K | Hair, horns, nails | |
| <i>Development of foetal membranes</i> | | Friant, Mrs M. — e | V |
| Bautzmann, H. — b | HV | Isings, J. — b | M |
| Alden, R. H. — a | M | Lyne, A. G. — a, b | M |
| | | Schinckel, P. G. — a | M |

Feathers			
Friant, Mrs M. — d	L		
Sense organs			
Cauna, N. — a	M		
Glands			
Cohn, S. A. — a	L		
Lutz, H. — g	L		
Cohn, S. A. — a, b	M		
Lyne, A. G. — b	M		
Mammae			
Raynaud, A. — a	M		
Pigment cells and patterns			
Portmann, A. — c	K		
Reams, Jr, W. M. — a	L		
Saunders, J. W. — a	L		
Saunders, J. W. — a	M		
Nervous system			
General subjects			
Baffoni, G. M. — a			
Weber, A. — a			
Harris, J. E. and			
Whiting, H. P. — a	I		
Dreyer, Miss M. V. — a	L		
Hamburger, V. — a	L		
Central nervous system			
Horstmann, E. — a	V		
Olsson, R. — b	V		
Deroux, G. — a	I		
Kollros, J. J. — e	J		
Bellairs-Morgan,			
Mrs M. R. — a	L		
Brown, J. W. — a	M		
Brain			
Olsson, R. — a, c	I		
Harkmark, W. — b	L		
Krabbe, K. H. — a	L		
Portmann, A. — b	L		
Teixeira, Mrs I. — a	L		
Ariëns Kappers, J. — a	M		
Bijtel, Miss J. H. — f	M		
Brondsted, H. V. — c	M		
Delmas, A. — a	M		
Fleischhauer, K. — a	M		
Friant, Mrs M. — c	M		
Grignon, G. — b	M		
Preto Parvis, Mrs V. — c	M		
Sinclair, J. G. — a	M		
Windle, W. F. — b	M		
Xavier Morato, M. J. — a	M		
Spinal cord			
Accessory organs			
Paraphysis			
Parietal organ			
Pincal body			
Kamer, J. C. van de — a	I		
Oksche, A. A. — b	J		
Venzke, W. G. — a	L		
Hypophysis (see also under endocrine glands)			
Grignon, G. — a	L		
Bartelmez, G. W. — c	M		
Ganglia			
Cephalic ganglia			
Rebert, R. R. — a	J		
Sámano Bishop, Miss A. — a	K		
Spinal ganglia			
Nerves			
Campenhout, E. van — a, b			
Cephalic nerves			
Campenhout, E. van — e	K		
Campenhout, E. van — e	M		
Eyries, Ch. — a	M		
Spinal nerves			
Fenart, R. and			
Olivier, G. H. G. — a	M		
Para- and sympathetic and intramural nervous system			
Siegfried, J. — a			
Johnels, A. G. — a	LV		
Para- and sympathetic nervous system			
Hammond, W. S. and			
Yntema, C. L. — a	L		
Jit, I. — c	M		
Olivier, G. H. G. and			
J. L. Tarnus — b	M		
Intramural nervous system			
Campenhout, E. van — d	M		
Meninges			
Special sense organs			
Nasal organ			
Bijtel, Miss J. H. — d	J		
Slabý, O. — c	HV		
Bijtel, Miss J. H. — e	M		
Blechs Schmidt, E. — b	M		
Eye			
Meyer, D. B. and			
O'Rahilly, R. — a	L		
Bartelmez, G. W. — b	M		

Sinclair, J. G. — d	M	Norberg, O. V. — a	M
<i>Eye (s.s.)</i>		Truncal skeleton	
Steinitz, H. — c	J	François, Y. — a	I
Stone, L. S. — d	J	Moursi, A. A. and	
<i>Lens</i>		Sedra, S. N. — a	J
Ear		Skeleton of extremities	
Bijtel, Miss J. H. — c	J	Skinner, J. H. — a	K
Bast, T. H. — a	M	Alkemade, Miss E. C. M. — a	M
Eyries, Ch. — a	M	Gardner, E.,	
Goedbloed, J. F. — a	M	Gray, D. J. and	
Schlesinger, A. B. — c	M	O'Rahilly, R. — a	M
Lateral sense organs		Olivier, G. H. G. and	
Dragomirov, N. I. — a	I	Pineau, H. — c	M
Pehrson, G. T. — a	I	Romankowowa, Mrs A. — a	M
Skeleton		Singer, R. — a	M
General subjects		Joints	
Friant, Mrs M. — e	V	Crelin, E. S. — a	M
Leblond, C. P. — b	V	Gardner, E.,	
Kamel, A. — b	I	Gray, D. J. and	
Orska, Miss J. — a	I	O'Rahilly, R. — a	M
Okada, T. and		Moffett, Jr, B. C. — a, b	M
Waddington, C. H. — a	J	Muscular system	
Sirlin, J. L. and		General subjects	
Waddington, C. H. — d	J	Wilde Jr, C. E. — c	J
Friant, Mrs M. — a	K	Jaya, Miss Y. — a	M
Friant, Mrs M. — a	L	Muir, A. R. — b	M
Crelin, E. S. — a	M	Zaaizer, Miss J. J. P. — b	M
Felts, W. J. L. — a	M	Skeletal muscles (head, trunk and tail)	
Friant, Mrs M. — a	M	Visceral muscles (head and trunk)	
Jit, I. — d	M	Fox, H. — c	J
Okada, T. and		Muscles of extremities	
Waddington, C. H. — a	M	Alimentary tract	
Robertson, G. G. — b	M	General subjects	
Embryonic temporary endo-skeleton		Campenhout, E. van — b	
Srinivasachar, H. R. — a	I	Delgado, R. — a	M
Skull and visceral skeleton		O'Connor, R. J. — a	M
Bertmar, G. — a	I	Tucker, R. — b	M
Pehrson, G. T. — a, b	I	Mouth- and pharyngeal cavities	
Srinivasachar, H. R. — b	I	Boschwitz, Miss B. D. — a	J
Michael, M. I. and		Slipka, J. — a, b	HV
Sedra, S. N. — a, b, c	J	Dreyer, Miss M. V. — a	L
Westhuizen, C. M. v. d. — a	J	Kleiss, E. — a	M
Slabý, O. — a	HV	Walker, B. E. — a	M
Hammond, W. S. and		Zenker, W. — a	M
Yntema, C. L. — b	L	Intestinal tract	
Bast, T. H. — a	M	Butler, H. — b	M
Dziallas, P. R. — a, b	M	Ford, P. — a	M
Ford, E. H. R. — a	M	Jit, I. — a, b, e	M
Kälin, J. — a	M		

Konopacka, Mrs B. — b	M
Koono, J. — a	M
Priesching, A. — a	M
Proctodaeum	
Dijk, D. E. van — a	J
Salivary glands	
Tucker, R. — a	HV
Liver	
Pancreas	
Humphrey, Miss T. — b	M
<i>Respiratory organs</i>	
General subjects	
External gills	
Internal gills	
Lungs and larynx	
Camphenout, E. van — a	
Dingler-Hahl, Mrs E. Ch. — a, b	M
Holst Christensen, P. J. — c	M
Quénu, L. — a	M
Quereux, P. — a	M
Air-bladder	
Winowska, Mrs J. — a	I
<i>Heart, vascular system and blood</i>	
General subjects	
Stephan, Fr. — a	L
Condorelli, M. — a	M
Heart	
Dankmeijer, J. and Los, J. A. — a	V
Baud, C. A. — a	L
Baumann, J. A. and Gallera, J. — a	L
Davies, F. and Francis, E. T. B. — a	M
King, T. S. — a	M
Latimer, H. B. — b	M
Muir, A. R. — a	M
Arterial and venous system	
Raunich, L. — a	I
Adams, W. E. — a	K
Adams, W. E. — a	M
Dziallas, P. R. — a, b	M
Ingen, Miss H. C. van — b	M
Jaya, Miss Y. — a	M
Reis, R. H. — c	M
Reynolds, S. R. M. — d	M
Slijper, E. J. — a	M
Capillary system	

Blood

Raunich, L. — a	I
Chishima, K. — b	J
Lemež, L. — a	L
Venzke, W. G. — b	L
Jones, O. P. — a	M
Muir, A. R. — b	M

Coelomic cavities and endothelia, lymphatic system and connective tissue

Coelomic cavities	
Quénu, L. — b	M
Quereux, P. — b	M
Wells, L. J. — a	M

Endothelia**Lymphatic system**

Blechs Schmidt, E. and Ferber-Schmidt, L. von — c	
Gyllensten, L. J. W. — a	M
Koono, J. — a	M

Connective tissue

Preto Parvis, Mrs V. — b	L
Koono, J. — b	M
Rengel, S., L. — a	M

*Urogenital system and sexual differentiation***General subjects**

Smet, W. M. A. De — a	I
Backhouse, K. M. — a	M
Roosen-Runge, E. C. — b	M

Kidneys

Szarski, K. W. — a	I
Cambar, R. — a	J
Fox, H. — e	J
Szarski, K. W. — a	J
Stenger-Haffen, Mrs K. E. — a	L
Boyer, C. C. — a	M

Nephric ducts and bladder**Gonads**

Witschi, E. — f	V
Follenius, E. and Vivien, J. H. — a	
Mohsen, Th., Vivien, J. H. and Thiebold, J. J. — a	I
Lepori, N. G. — a	J
Reggiani, Miss M. P. — b	J
Matějka, M. — a	HV
Sabbadin, A. — a	K

Stefan, Miss Y. and Vivien, J. H. — a	K	Adrenals	
Marin, G. — a	L	Witschi, E. — f	V
Backhouse, K. M. — a	M	Crowder, R. E. — a	M
Genital tracts		Schaberg, A. — a	M
Mohsen, Th., Vivien, J. H. and Thiebold, J. J. — a	I	Pancreas	
Cambar, R. — d	J	Heckerman, R. O. — a	L
Matějka, M. — a	HV	Heckerman, R. O. — a	M
Stefan, Miss Y. and Vivien, J. H. — a	K	f Histo- and cytogenesis	
Dankmeijer, J. — c	M	Sausser, G. — b, d	
Gitlin, G. — a	M	Friant, Mrs M. — e	V
Mossman, H. W. — a	M	Schreiber, G. — a	J
Ross, Miss J. R. W. — a	M	Over, H. J. — a	L
Szarski, K. W. — b	M	Preto Parvis, Mrs V. — b	L
Accessory glands		Schreiber, G. — a	L
Matějka, M. — a	HV	Schreiber, G. — a	M
Bengmark, S. — a	M	δ Growth and differentiation (<i>Invertebrates and Vertebrates</i>)	
Szarski, K. W. — b	M	a Growth	
Sexual differentiation		Mitchison, J. M. — a	P
Witschi, E. — c	J	Swann, M. M. — b	P
Bellvomini, H., Hoge, A. and Schreiber, G. — a	K	Legrand, J. J. — c, e	D
Marin, G. — a	L	Tuft, P. H. — a	D
Reinbold, R. — a	L	Voy, A. — a	D
Lindahl, P. E. and Sundell-Thorsell, Mrs G. — c	M	Larambergue, M. de — c	E
Vacek, Z. — a	M	Tuft, P. H. — a	I
Endocrine glands		Lehmann, F. E. — a	J
General subjects		Tisna-Amidjaja, D. A. — a	J
Rechenmann, R., Vivien, J. H. and Schott, J. — a	I	Tuft, P. H. — a	J
Dimond, Sister M. T. — a	K	Felts, W. J. L. — a	M
Moog, Miss F. — b	M	Ford, E. H. R. — a	M
Hypophysis (see also under nervous system)		Kälin, J. — a	M
Meurling, P. B. — a	I	Robertson, G. G. — b	M
Dimond, Sister M. T. — a	K	a/b Growth and differentiation	
Grignon, G. — a	L	Baffoni, G. M. — a	
Enemar, E. A. W. — a	M	Elbers, P. F. — a	E
Thymus		b Differentiation	
Thyroid gland		Chiquoine, A. D. — a	
Leblond, C. P. — a	V	Gloor, H. J. — a	D
Parathyroid glands		Karasaki, S. and Yamada, T. — a	J
Gonads		Lanzavecchia, G. — b	J
		Leone, V. — b	J
		Bellairs-Morgan, Mrs M. R. — a	L
		Cigada-Leonardi, Mrs M. — b	L
		Clark, H. — c	L
		Lanzavecchia, G. — b	L
		Muir, A. R. — b	M

II. EXPERIMENTAL DEVELOPMENTAL MORPHOLOGY

SUBDIVISION

- 1 *Theoretical problems and general questions*
- 2 *Methods and techniques*
- 3 *General subjects* (asexual development, reproduction, etc.)
- 4 *Initial development*
 - a General subjects
 - b Primordial germ cells
 - c Gameto-, ovo- and spermatogenesis
 - d Maturation
 - e Ovulation and oviposition
 - f Activation and fertilization
 - g Parthenogenesis
- 5 *Cleavage and mitosis*
 - a Cleavage
 - b Mitosis
- 6 *Further development of Invertebrates*
 - a General subjects (including complete development)
 - b Topogenesis
 - c Determination of „Primitiventwicklung“
 - d Development of part of the organism
 - e Development of special organ systems
(Cf. general subdivision p. 153—155)
 - f Histo- and cytogenesis
- 7 *Further development of Vertebrates*
 - a General investigations
 - 1 General subjects
 - 2 Complete development
 - 3 Partial development
 - 4 Implantation and placentation
 - b Topogenesis
 - 1 Early development
 - 2 Gastrulation and formation of germ layers
 - 3 Neurulation
 - 4 Formation of neural crest
 - 5 First larval development
 - c Induction, determination, etc.
 - 1 Induction
 - 2 Determination
 - 3 Regulation and organisation
 - d Development of part of the organism
 - 1 Head
 - 2 Extremities
 - 3 Tail
 - e Development of special organ-systems
(Cf. general subdivision p. 153—155)
 - f Histo- and cytogenesis

8 *Growth and differentiation (Invertebrates and Vertebrates)*

- a Growth
- a/b Growth and differentiation
- b Differentiation

CHARACTER OF INVESTIGATION

- (4) Physical treatment
- (5) Chemical treatment
- (6) Influence of hormones and vitamins

1 <i>Theoretical problems and general questions</i>	Clavert, J. — a	(6)J
	Kanoh, Y. — a	I
2 <i>Methods and techniques</i>	Clavert, J. — a	(6)K
	Clavert, J. — a	(6)L
Curtis, A. S. G. — b	Austin, C. R. — a	M
Curtis, A. S. G. — b	Bishop, M. W. H. — a	M
Hicks, S. P. — a	(4)M	
3 <i>General subjects (asexual development, reproduction, etc.)</i>	Hamilton, W. J. and Harrison, R. J. — a	M
	Harrison, R. G. — a	M
	Harrison, R. G. — b	(4)M
Gilbert, P. W. — a	Katsh, S. — a	(5)M
Felts, W. J. L. — e	MacMillan, E. W. — a, d	M
Gates, A. H. — a	MacMillan, E. W. — c	(6)M
4 <i>Initial development</i>	d <i>Maturation</i>	
a <i>General subjects</i>	Dan, K. — c	G
	e <i>Ovulation and oviposition</i>	
Nijenhuis, E. D. — a	(5)E	
Harvey, Mrs E. Browne — a	(4)G	
Harvey, Mrs E. Browne — f	G	
Ortolani, Miss G. — a	H	
Beatty, R. A. — a	M	
b <i>Primordial germ cells</i>		
Vannini, E. — d	C	
Geyer-Duszyńska, Mrs I. — b	D	
Follenius, E. and Vivien, J. H. — a	I	
Aubry, Miss R. — a	J	
Blackler, A. W. — a	J	
Bounoure, L. — a	J	
Rebert, R. R. — b	J	
Simon, Mrs D. — b	L	
Mintz, Miss B. — a	L	
Mintz, Miss B. — a	M	
c <i>Gameto-, ovo- and spermatogenesis</i>		
Dan, Mrs J. C. — a	EV	
Vannini, E. — d	C	
Bieleńska-Osuchowska, Mrs Z. — b	D	
Tahmisian, T. N. — c	(4)D	
	f <i>Activation and fertilization</i>	
	Ginsburg, Mrs A. S. — a	I
	Kanoh, Y. — a	I
	Kille, R. A. — a	I
	Moricard, R. — c	M
	Austin, C. R. — a	M
	Bishop, M. W. H. — a	M
	Braden, A. W. H. — a	M
	Chang, M. C. — e	M
	Cheney, R. H. — b	(5)M
	Runner, M. N. — a	(6)M
	g <i>Parthenogenesis</i>	
	Asturov, B. L. — a	D
	Harvey, Mrs. E. Browne — a	G
	Chang, M. C. — e	M
	Edwards, R. G. — a	M
	5 <i>Cleavage and mitosis</i>	
	a <i>Cleavage</i>	
	Dan, K. — a	G
	Geilenkirchen, W. L. M. and Zeuthen, E. — c	(4)G
	Marsland, D. A. — a	(4)G

Battle, Miss H. I. — b (5)I
 Colombo, G. — b (6)J
 Sirakami, K. I. — a J
b Mitosis
 Källén, A. J. B. — a J
 Corliss, C. E. — c L
 Hintzsche, E. — b (5)M
6 Further development of Invertebrates
a General subjects (including complete development)
 Bonner, J. T. — a, b Pl
 Billett, F., Perry, Miss M. M. and Waddington, C. H. — a (5)EV
 Hanson, E. D. — c (5)P
 Brøndsted, H. V. — b A
 Hale, L. J. — a B
 Mookerjee, S., Sanyal S., Nagarajan, S. N. and Sinha, A. — b B
 Sembrat, K. — a B
 Costello, D. P. — a C
 Ghirardelli, E. — a (5)C
 Macfadyen, A. — a C
 Monné, L. — a C
 Sugino, H. — a C
 Bednjakova, Mrs T. A. — a (4)D
 Bodenstein, D. — c D
 Bookhout, C. G. — b (4/5)D
 Costlow, J. D. — a D
 Ede, D. A. — b D
 Geyer-Duszyńska, Mrs I. — a D
 Goto, T. — b (5)D
 Hama, T. — b (5)D
 Jura, Cz. — a D
 Krause, G. — a D
 Lüscher, M. — a D
 Mori, H. — a (5)D
 Nüesch, H. — a D
 Rappaport, Jr. R. — b D
 Takami, T. — b D
 Verejskaja, Miss V. N. — a (4)D
 Yoshikura, M. — a (4)D
 Geilenkirchen, W. L. M. and Raven, Chr. P. — b (5)E
 Hartung, E. W. — b E
 Kawakami, Mrs K. I. — d E
 Raven, Chr. P. — a (5)E
 Schneider, D. — d F

Cheney, R. H. — a (5)G
 Gustafson, T. and Hörstadius, S. — a, c (5)G
 Harvey, Mrs E. Browne — b G
 Harvey, Mrs E. Browne — g (5)G
 Brewin, B. I. — a H
b Topogenesis
 Clement, A. C. — a E
 Verdonk, N. H. — a (5)E
 Kanatani, H. — b G
c Determination of „Primitiv-entwicklung“
 Selman, G. G. — a (3)EV
 Holm, K. Å. — a D
 Krause, G. — b D
 Sander, K. — a D
 Schoeller, Miss J. — a D
 Yajima, H. — a D
 Clement, A. C. — a E
 Elbers, P. F. — b (5)E
 Hess, O. — a E
 Raven, Chr. P. — c E
 Citterio, P. — a G
 Elbers, P. F. — c (5)G
 Hörstadius, S. — a G
 Lallier, R. A. — c G
 Lindahl, P. E. — a G
 Runnström, J. A. M. — a G
 Farinella-Ferruzza, Mrs N. — b H
d Development of part of the organism
 Haget, A. — a D
 Löbbecke, E.-A. — b D
 Pohley, H.-J. — a D
 Razimbaud, Miss J. — a D
e Development of special organ systems
 Naylor, E. — a C
Skin
 Kühn, A. — b D
 Schwartz, V. — a D
 Schneider, D. — b, e F
Nervous system
 Olsson, R. — b H
Special sense organs
 Wolsky, A. — b D

<i>Skeleton</i>		Hartung, E. W. — c	J
Okazaki, Miss K. — a	G	Kemp, N. E. — b	J
<i>Muscular system</i>		Liedke, Mrs K. Beyer — a	(5)J
<i>Alimentary system</i>		Mangold, O. — a	(4/5)J
Raven, Chr. P. — c	E	Mookerjee, S., Adhikari, S., Balasubramaniam, K., Nurjahan, Miss B. and Bose, Miss A. — d	J
<i>Respiratory organs</i>		Nakamura, O. — d	J
<i>Heart, vascular system and blood</i>		Okano, H. — a	J
<i>Coelomic cavities and endothelia, lymphatic system and connective tissue</i>		Pflugfelder, O. — c	J
<i>Urogenital system and sexual differentiation</i>		Rossi, A. — a	J
Katakura, Y. — a	D	Singer, M. — a	(5)J
Legrand, J. J. — a	D	Stultz, W. A. — a	J
Pantelouris, E. M. — a	D	Takaya, H. — b	J
Aubry, Miss R. — b	E	Vahs, W. — c	(5)J
Harvey, Mrs E. Browne — d (4)	G	Vainio, E. T. — a	J
<i>Endocrine glands</i>		Vintemberger, P. — a	J
Lüscher, M. — b	D	Benoit, J. — a	(5)HV
f Histo- and cytogenesis		Clavert, J. — b	K
Astaurov, B. L. — d	(4)D	Pflugfelder, O. — c	K
Geigy-Heese, R. — d	D	Abercrombie, M. — a	L
7 Further development of Vertebrates		Bagiński, S. — b	(5)L
a General investigations		Bose, A. — b	(4)L
<i>General subjects</i>		Clavert, J. — b	L
Kuhn, O. — c	(5)	Curtis, A. S. G. — b	L
Nicholas, J. S. — c		Evans, H. J. — a	(6)L
Kawakami, I. — b	(5)V	Harrison, J. R. — b	L
Battle, Miss H. I. — c	(4)I	Horn, E. C. — b	(5)L
Clavert, J. — b	I	Hublé, J. — a	L
Hama, T. — b	(5)I	Kawakami, Mrs K. I. — b	(5)L
Lutz, H. and Lutz-Ostertag, Mrs Y. — c	I	Koecke, H.-U. — b	L
Oppenheimer, Miss J. M. — b	I	Lutz, H. — b	L
Pflugfelder, O. — c	I	Lutz, H. and Lutz-Ostertag, Mrs Y. — e, f	L
Welander, A. D. — a	(4)I	May, R. M. — b	L
Anton, H. J. — b	J	Mookerjee, S., Adhikari, S., Balasubramaniam, K., Nurjahan, Miss B. and Bose, Miss A. — d	L
Bondi, C. — c	J	Nicholas, J. S. — h	L
Brachet, J. L. A. — b	(5)J	Pflugfelder, O. — c	L
Brunst, V. V. — a	J	Rembieliński, B. — a	(5)L
Curtis, A. S. G. — b	J	Vintemberger, P. — a	L
Deuchar, Miss E. M. — a	(5)J	Wolff, Et. C. — a, f	L
Elsdale, T. R. and Fischberg, M. — a	J	Auerbach, R. — a	M
Goto, T. — b	(5)J	Austin, C. R. — a	M
Hama, T. — b	(5)J	Beatty, R. A. — a	M
		Bishop, M. W. H. — a	M
		Cheney, R. H. — b	(5)M
		Dokter, H. J. — b	(5)M

Evans, H. J. — a	(6)M
Gates, H. J. — b	M
Grobstein, C. — a	M
Hicks, S. P. — a	(4)M
Levak, Miss B. and Skreb, N. — a	(5)M
May, R. M. — a	M
McLaren, Mrs. A. and Michie, D. — a	M
Moog, Miss F. — b	(6)M
Nicholas, J. S. — f	(4)M
Nicholas, J. S. — g, h	M
Sausser, G. — a	M
Sinclair, J. G. — c	(5)M
Wolff, Et. C. — f	M
Wrba, H. — b	M

Complete development

Partial development

Battle, Miss H. I. — d	(5)I
Devillers, Ch. — b	I
Colombo, G. — b	(6)J
Green, Mrs E. U. — a	(5)J
Manelli, E. and Pasquini, P. — d	(4)J
Mazzoni-De Cesare, Mrs I. and Pasquini, P. — d	(4)J
Takaya, H. — c	(4)J
Watanabé, T. — a	(4)J
Wilde Jr, C. E. — b	J
Zwilling, E. — a	L

Implantation and placentation

Runner, M. N. — a	(6)M
Wrba, H. — b	M

b Topogenesis

Nakamura, O. — a	J
Wilens, Miss S. W. — a	J
Schlesinger, A. B. — b	L
Seno, T. — a	I.

Early development

Lovtrup, S. — c	J
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Gastrulation and formation of germ layers

Castigli-Pitotti, Mrs M. — a	I
Lovtrup, S. — c	J
Malan, Miss M. E. — a	K

Neurulation

Rossini, Miss M. C. — a	J
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Formation of neural crest

Boddingius, Miss J. — a	J
Mina, E. Y. — a	J
Rossini, Miss M. C. — b	J
Wilde Jr, C. E. — a	J
Azoubel, R. — a	L
Koecke, H.-U. — c	L

First larval development

Kato, K. — a	J
Muchmore, W. B. — a	J
Fowler, I. — a	L

c Induction, determination, etc.

Alonso, Miss M. — a	J
Balinsky, B. I. — a	J
Brahma, S. K. — b	J

Induction

Engländer, H. — a	J
Eyal-Giladi, Mrs H. — a, b, c	J
Gallera, J. — c	J
Hama, T. — a	J
Holtfreter, J. K. F. — b	J
Jansen, J. G. O. — a	J
Johnen, Miss A. G. — a, b	J
Kuusi, Miss T. K. — e	(5)J
Lallier, R. A. — b	J
Masui, Y. — a	(5)J
Mifune, S. — a	J
Moore, J. A. — c	J
Nieuwkoop, P. D. — a, b, c	J
Reyer, R. W. — b	J
Rollhäuser-ter Horst, Mrs J. O. B. — a	(5/6)J
Sala, M., S.J. — a	J
Schreiber, B. — b	J
Schreurs, A. F. — a	J
Sládeček, F. — b	J
Spofford, W. R. — a	J
Takata, Miss C. and Yamada, T. — a	J
Toivonen, S. I. — a, c	J
Trampusch, H. A. L. — d	J
Vahs, W. — a	J
Woellwarth, C. v. — a, b	J
Grabowski, C. T. — a, b, c	L
Schreiber, B. — b	L
Spratt Jr, N. T. — d	L
Woerdeman, M. W. — b	L
Mifune, S. — a	M
Nicholas, J. S. — b	M

Woerdeman, M. W. — b	M
<i>Determination</i>	
Citterio, P. — a	J
Denis, H. A. — a	J
Fischiarolo, G. — a	J
Hörstadius, S. — b	J
Islam, A. — a	J
Lallier, R. A. — c	J
Mangold, O. — c	J
Raunich, L. — c	J
Spofford, W. R. — a	J
Tahara, Y. — a	J
Woerdeman, M. W. — b	L
Woerdeman, M. W. — b	M
<i>Regulation and organization</i>	
Hay, Miss D., Vivien, J. H. and Schott, J. — a	I
Blackler, A. W. — b	J
Boterenbrood, Miss E. C. — a	J
Cury, G. — a	J
Draisma, J. R. — a	J
Mina, E. Y. — b	J
Schreurs, A. F. — b	J
Sembrat, K. — d	J
Sembratowa-Opoczyńska, Mrs Z. — a	J
Sládeček, F. — a	J
Amprino, R. M. — b, c	L
Grabowski, C. T. — a, b, c	L
Hampé, A. — a, b	L
Kawakami, I. — a	M
d Development of part of the organism	
<i>Head</i>	
Mangold, O. — b	J
Grabowski, C. T. — a, b, c	L
Huber, W. — a	M
<i>Extremities</i>	
François, Y. — a	I
Harrison, R. G. — a	J
O'Brien, J. P. — a	J
Stinson, B. D. — c	(4)J
Stultz, W. A. — b	J
Wilde Jr, C. E. — a	J
Amprino, R. M. — a, b	L
Hampé, A. — a	L
Saunders, J. W. — c, e, h	L
Zwilling, E. — c	L
Huygnard, C. — a	M

<i>Tail</i>	
Bijtel, Miss J. H. — a	J
Farinella-Ferruzza, Mrs N. — a	J
Kiortsis, V. — c	(6)J
Nakamura, O. — b	J
O'Brien, J. P. — a	J
e Development of special organ systems	
<i>Skin</i>	
General subjects	
Lyne, A. G. — a	M
Exo-skeleton	
Teeth	
Brouwer, P. J. and Dankmeijer, J. — a	M
Cohn, S. A. — c	M
Niizima, M. — a	M
Hair, horns, nails	
Chase, H. B. — b	M
Chase, H. B. — c	(4)M
Lyne, A. G. — a	M
Feathers	
Kuhn, O. — b	L
Saunders, J. W. — d	L
Sengel, Ph. — b	L
Watterson, R. L. — d	(6)L
Sense organs	
Glands	
Gomot, L. — a	L
Lutz, H. — g	L
Mammae	
Pigment cells and patterns	
Hama, T. — c	I
Hishida, T. — c	I
Mori, Y. — a, b	I
Andres, G. — b	J
Hama, T. — c	J
Nowakówna, Miss J. — b	(6)J
Hamilton, H. L. — b	L
Koecke, H.-U. — c	L
Menkes, B. — a	L
Sengel, Ph. — a	L
Willier, B. H. — b	L
Chase, H. B. — b	M
Markert, C. L. — b	M
Nervous system	
General subjects	
Stefanelli, A. — a	V

Gallera, J. — b	J
Holtfreter, J. K. F. — b	J
Spofford, W. R. — b	J
Godina, G. — a, b	L
Sidman, R. — a	L
Thillard, Miss M. J. — a	L
Wenger, B. S. — a	L
Bodemer, C. W. — a	M
Eayrs, J. T. — a	(6)M
Sidman, R. — a	M
Central nervous system	
Bergquist, H. — a	V
Olsson, R. — b	V
Deroux, G. — a	I
Baltzer, F. and Chen, P. S. — b	J
Gallera, J. — c	J
Jacobson, D. C.-O. — a	J
Källén, A. J. B. — a	J
Kollros, J. J. — d	J
Romanovský, A. — a	J
Sládeček, F. — a	J
Takaya, H. — a	J
Woellwarth, C. v. — a	J
Corliss, C. E. — c	L
Grabowski, C. T. — a, b, c	L
Källén, A. J. B. — b	L
McCallion, D. J. — a	L
Watterson, R. L. — d	(6)L
Bodemer, C. W. — a	M
Brain	
Oppenheimer, Miss J. M. — a	I
Boterenbrood, Miss E. C. — a	J
Denis, H. A. — a	J
Kollros, J. J. — a	J
Coulombre, A. J. and Coulombre, J. L. — c	L
Dossel, W. E. — a	L
Grignon, G. — b	M
Harkmark, W. — a	M
Spinal cord	
Stultz, W. A. — c	J
Accessory organs	
Paraphysis	
Parietal organ	
Pincal body	
Oksche, A. A. — b	(4)J
Moszkowska, A. — a	L
Thillard, Miss M. J. — b	L
Venzke, W. G. — c	M

Hypophysis (see also under endocrine glands)	
Eyal-Giladi, Mrs H. — c	J
Thurmond, W. — b	J
Grignon, G. — a	L
Ganglia	
Cephalic ganglia	
Rebert, R. R. — a	J
Spinal ganglia	
Nerves	
Sala, M., S.J. — b	J
Para- and sympathetic and intramural nervous system	
Para- and sympathetic nervous system	
Hammond, W. S. and Yntema, C. L. — a	L
Vacek, Z. — b	L
Intramural nervous system	
Meninges	
Special sense organs	
Nasal organ	
Eye	
Baltzer, F. and Chen, P. S. — b	J
Gabie—Gubbay, Mrs V. — a	J
Kollros, J. J. — g	J
Mina, E. Y. — b	J
Amprino, R. M. — c	L
Harrison, J. R. — a	L
Reinbold, R. — b	L
Rugh, R. — c	M
Sinclair, J. G. — d	M
Eye (s.s.)	
Lopashov, G. V. — a	J
Sembrat, K. — d	J
Sembratowa-Opczyńska, Mrs Z. — a	J
Stroëva, Miss O. G. — c	(5)J
Stroëva, Miss O. G. — b	M
Lens	
Becker, U. — b	J
Brahma, S. K. — b	J
Reyer, R. W. — b	J
Tahara, Y. — a	J
McKeehan, M. S. — a	L
Ear	
Benoit, J. A. A. — a	I
Guardabassi, Miss A. — a	(5/6)J
Harrison, R. G. — b	J
Yntema, C. L. — a	J

Benoit, J. A. A. — a	L	Mouth- and pharyngeal cavities	
Schlesinger, A. B. — d, e	M	Boschwitz, Miss B. D. — a	J
Lateral sense organs		Intestinal tract	
Skeleton		Coulombre, A. J. and	
General subjects		Coulombre, J. L. — a, e	L
Kälin, J. — b	J	Weniger, J. P. — a	L
Okada, T. and		Foley, Mrs E. P. — a	M
Waddington, C. H. — a	J	Weniger, J. P. — a	M
Schreiber, B. — b	J	Proctodaeum	
Sirlin, J. L. and		Salivary glands	
Waddington, C. H. — d	J	Liver	
Kieny, Mrs M. A. — a	L	Croisille, Y. — a	L
Schreiber, B. — b	L	Filogamo, G. — a	L
Seno, T. — b	L	Marin—Lewin, Mrs L. — a	L
Zahnd, J. P. — a	L	Watterson, R. L. — d	(6)L
Crelin, E. S. — a	M	Watterson, R. L. — f	(5)L
Felts, W. J. L. — b	M	Pancreas	
Okada, T. and		Respiratory organs	
Waddington, C. H. — a	M	General subjects	
Zaaijer, Miss J. J. P. — a	M	External gills	
Embryonic temporary endo-skeleton		Durante, Miss M. — a	J
Grabowski, C. T. — c	L	Wilde Jr, C. E. — a	J
Skull and visceral skeleton		Internal gills	
Srinivasachar, H. R. — b	I	Lungs and larynx	
Coulombre, A. J. and		Watterson, R. L. — e	(6)L
Crelin, E. S. — f	L	Wolff, Mrs Em. — a	L
Hammond, W. S. and		Air-bladder	
Yntema, C. L. — b	L	Heart, vascular system and blood	
Ford, E. H. R. — b	(6)M	General subjects	
Truncal skeleton		Condorelli, M. — a	M
François, Y. — a	I	Heart	
Orska, Miss J. — b	(4)I	Haan, R. L. De — b	(5)L
Runner, M. N. — b	M	Rychter, Z. — a	L
Skeleton of extremities		Arterial and venous system	
Watterson, R. L. — d	(6)L	Rychter, Z. — a	L
Joints		Stephan, Fr. — b	L
Crelin, E. S. — a	M	Capillary system	
Muscular system		Blood	
General subjects		Brodowa, Mrs Ch. Grabie — a	(6)J
Konigsberg, I. R. — b	(6)L	Manelli, E. — b	J
Herrmann, H. and Konigsberg,		Lemež, L. — b	L
Mrs U. Rothfels — c	M	Watterson, R. L. — d	(6)L
Skeletal muscles (head, trunk and tail)		Coelomic cavities and endothelia,	
Visceral muscles (head and trunk)		lymphatic system and connective	
Hammond, W. S. — c	L	tissue	
Muscles of extremities		Coelomic cavities and endothelia	
Alimentary tract		Lymphatic system	
General subjects		Gyllensten, L. J. W. — a	(6)M
Nakamura, O. — c	J		

Connective tissue
 Menschik, Z. — b M

Urogenital system and sexual differentiation

General subjects
 Wolff, Et. C.,
 Stenger-Haffen, Mrs K.,
 Wolff, Mrs Em. and
 Kieny, Mrs M. A. — d HV
 Groenendijk—Huijbers,
 Mrs M. M. — a L
 Reinbold, R. — a (6)L
 Watterson, R. L. — e (6)L
 Bengmark, S. and
 Forsberg, J. G. — b (6)M

Kidneys
 Cambar, R. — a, b J
 Fox, H. — a (5)J
 Fox, H. — b J
 Manelli, E. — c J
 Bons, J. — a K
 Mitra, S. — a L

Nephric ducts and bladder
 Bijtel, Miss J. H. — b J

Gonads
 Salzgeber, Miss B. — b (5)
 Vannini, E. — b V
 Witschi, E. — f V
 D'Ancona, U. — a I
 Follenius, E. and
 J. H. Vivien — a I
 Bounoure, L. — a J
 Foote, Ch. L. and
 Foote, Mrs F. M. — b J
 Sabbadin, A. — b (6)J
 Vannini, E. — c J
 Stefan, Miss Y. and
 Vivien, J. H. — a K
 Hampé, A., Wolff, Et. C.,
 Scheib-Pfleger, Mrs D.,
 Salzgeber, Miss B. and
 Strudel, G. — c (6)L
 Limborgh, J. van — a L
 Marin, G. — a L
 Moszkowska, A. — a L
 Weniger, J. P. — a L
 Gaillard, P. J. — a M
 Rugh, R. — b (4)M

Weniger, J. P. — a M

Genital tracts
 Cambar, R. — d J
 Stefan, Miss Y. and
 Vivien, J. H. — a K
 Hampé, A., Wolff, Et. C.,
 Scheib-Pfleger, Mrs D.,
 Salzgeber, Miss B. and
 Strudel, G. — c (6)L
 Lutz-Ostertag, Mrs Y. — a L
 Glenister, T. W. — a (6)M

Accessory glands
Sexual differentiation
 Salzgeber, Miss B. — a (4/5)
 Querner, H. — b I
 Yamamoto, T. — b I
 Foote, Ch. L. and
 Foote, Mrs F. M. — a J
 Hanaoka, K. I. — b J
 Iwasawa, H. — b (6)J
 Lugli, Miss L. — a (6)J
 Romani, Miss M. L. — a (6)J
 Witschi, E. — c J
 Witschi, E. — d (6)J
 Hampé, A., Wolff, Et. C.,
 Scheib-Pfleger, Mrs D.,
 Salzgeber, Miss B. and
 Strudel, G. — c (6)L
 Limborgh, J. van — b L
 Lutz-Ostertag, Mrs Y. and
 Wolff, Et. — b (6)L
 Marin, G. — a L
 Jost, A. D. — b M

Endocrine glands
General subjects
 Iwasawa, H. — a J

Hypophysis (see also under nervous system)
 Dimond, Sister M. T. — a (6)K
 Grignon, G. — a L
 Moszkowska, A. — a L
 Lydecken, K. — a M

Thymus
Thyroid gland
 Dossel, W. E. — b, c L
 Tixier-Vidal, Mrs A. — a L
 Brouwer, P. J. and
 Dankmeijer, J. — a M
 Lydecken, K. — a M

Parathyroid glands

Gonads

Vannini, E. — b V
 Witschi, E. — f V

Adrenals

Willier, B. H. — a L
 Crowder, R. E. — b (6)M

Pancreas

Lièvre, Miss Fr. — a (6)L

f Histo- and cytogenesis

Clark, H. — b
 Sauser, G. — e
 Shannon, J. E. — a
 Stefanelli, A. — a V
 Brouant, J. F. — a (5)J
 Steinberg, M. S. — b J
 Steinberg, M. S. — c (5)J
 Levi, G. L. — b HV
 Wolff, Et. C.,

Stenger-Haffen, Mrs K.,
 Wolff, Mrs Em. and
 Kieny, Mrs M. A. — d HV

Abercrombie, M. and
 Karthausier, Miss H. M. — b L
 Ebert, J. D. — d L
 May, R. M. — b L
 Moszkowska, A. — a L
 Sidman, R. — a L
 Zwilling, E. — b L
 Auerbach, R. — a M
 Grobstein, C. — a M
 Hintzsche, E. — c (4)M
 Sidman, R. — a M

8 Growth and differentiation

(Invertebrates and Vertebrates)

a Growth

Cheney, R. H. — c (5)PL
 Altschul, R. — a (5/6)
 Green, Mrs E. U. — a (5)J
 Moment, G. B. — b J
 Oksche, A. A. — a (6)J
 Levi, G. L. — a HV
 Godina, G. — b L
 Thillard, Miss M. J. — a L
 Ford, E. H. R. — b (6)M
 Harrison, G. A. — a (4)M
 Hintzsche, E. — b (5)M

a/b Growth and differentiation

Sauser, G. — e
 Wilde Jr, C. E. — d (5)J
 Geigy-Heese, R. — d D
 Foote, Ch. L. and
 Foote, Mrs F. M. — b J
 Stone, L. S. — d J
 Wilde Jr, C. E. — d (2a)J
 Ebert, J. D. — d L
 May, R. M. — b L
 McKeehan, M. S. — a L
 Moszkowska, A. — a L
 Sidman, R. — a L
 Small, Miss J. E. — a L
 Sidman, R. — a M

b Differentiation

Bonner, J. T. — a Pl
 Mookerjee, S., Sanyal, S.,
 Nagarajan, S. N. and
 Sinha, A. — b B
 Tahmisian, T. N. — a D
 Lopashov, G. V. — b I
 Oppenheimer, Miss J. M. — b I
 Bondi, C. — c J
 Brouant, J. F. — a (5)J
 Draisma, J. R. — a J
 Kato, K. — a J
 Nakamura, O. — d J
 Okano, H. — a J
 Steinberg, M. S. — b J
 Steinberg, M. S. — c (5)J
 Takata, Miss C. and
 Yamada, T. — a J
 Wilde Jr, C. E. — b J
 Wolff, Et. C.,

Stenger-Haffen, Mrs K.,
 Wolff, Mrs Em. and
 Kieny, Mrs M. A. — d HV

Clayton-Freedman, Mrs R. M.
 and Frohlich, A. — c L
 Fowler, I. — b L
 Fowler, I. — c (5)L
 Källén, A. J. B. — b L
 Zwilling, E. — a L
 Grobstein, C. — a M
 Markert, C. L. — b M
 Nicholas, J. S. — j M
 Schlesinger, A. B. — e M
 Stroëva, Miss O. G. — b M
 Wrba, H. — b M

III. PHYSIOLOGY OF DEVELOPMENT

SUBDIVISION

- 1 *Theoretical problems and general questions*
- 2 *Methods and techniques*
- 3 *General subjects* (asexual development, reproduction, etc.)
- 4 *Initial development*
 - a General subjects
 - b Primordial germ cells
 - c Gameto-, ovo- and spermatogenesis
 - d Maturation
 - e Ovulation and oviposition
 - f Activation and fertilization
 - g Parthenogenesis
- 5 *Cleavage and mitosis*
 - a Cleavage
 - b Mitosis
- 6 *Further development of Invertebrates*
 - a General subjects (including complete development)
 - b „Primitiventwicklung“ (including early development)
 - c Induction and determination
 - d Development of part of the organism
 - e Development of special organ systems
(Cf. general subdivision p. 153—155)
 - f Histo- and cytochemistry
 - g Serological and immunological studies
- 7 *Further development of Vertebrates*
 - a General investigations
 - 1 General subjects
 - 2 Complete development
 - 3 Later development
 - 4 Implantation and placentation
 - 5 Development of behaviour
 - b „Primitiventwicklung“
 - 1 Early development
 - 2 Gastrulation
 - 2,3 Gastrulation and neurulation
 - 3 Neurulation
 - 4 Development of neural crest
 - c Induction, determination, etc.
 - 1 Induction
 - 2 Determination
 - 3 Regulation and organization
 - d Development of part of the organism
 - 1 Head
 - 2 Extremities
 - 3 Tail
 - e Development of special organ-systems
(Cf. general subdivision p. 153—155)
 - f Histo- and cytochemistry

g Serological and immunological studies

8 *Growth and differentiation (Invertebrates and Vertebrates)*

a Growth

a/b Growth and differentiation

b Differentiation

9 *Nutrition of embryo (Invertebrates and Vertebrates)*

CHARACTER OF INVESTIGATION

(1) Metabolism and respiration

(2) a) Biochemistry, b) Histochemistry, c) Cytochemistry

(3) Physical properties

(4) Physical treatment

(5) Chemical treatment

(6) Influence of hormones and vitamins

1 *Theoretical problems and general questions*

Willier, B. H. — c (6)

2 *Methods and techniques*

Bednjakova, Mrs T. A. and Verejskaja, Miss V. N. — b (4)D

Roncoroni, G. — a (2a)M

3 *General subjects*

(asexual development, reproduction, etc.)

Johnson, D. C. — a

Spratt Jr, N. T. — f EV

Gregg, J. H. — a P

Mookerjee, S., Ganguly, B. and Chowdhury, M. — c A

Nobili, R. — a C

Crisp, D. J. — b D

Hanaoka, K. I. — a (6)D

Frazer, J. F. D. — b (6)J

Butler, H. — a M

Clegg, E. J. — a M

Feo, V. J. De — a M

Gates, A. H. — a M

Hunt, E. L. — b M

Pincus, G. — a M

Runner, M. N. — a M

Young, W. C. — a, b M

4 *Initial development*

a *General subjects*

Jaffe, L. F. — a (3)Pl

Lehmann, F. E. — c EV

Minganti, A. — c (1)EV

Pasteels, J. — c (2c)EV

Mulnard, J. O. — b (2c)C

Weber, R. — b C

Geilenkirchen, W. L. M. — a (1)E

Nijenhuis, E. D. — a (5)E

Nijenhuis, E. D. — b (2)E

Aketa, K. — b (2a/c)G

Brookbank, J. W. — a (1)G

Brookbank, J. W. — b (2c)G

Cheney, R. H. — d (1/5)G

Hiramoto, Y. — b (3)G

Maggio, Miss R. — a (1)G

Mulnard, J. O. — b (2c)G

Aketa, K. — b (2a/c)I

Ishida, J. — a (1)I

Sundell, L.-E. — a (1/2)I

Dollander, A. — a, b (3)J

Minganti, A. — b J

Rosenbaum, R. M. — c (2c)J

Sundell, L.-E. — a (1/2)J

Weber, R. — b J

Baiocchi, O., Moricard, R. and Gothiè, Miss M. M. C. S. — a (1)M

McLaren, Mrs A. and Michie, D. — b (6)M

b *Primordial germ cells*

c *Gameto-, ovo- and spermatogenesis*

Gray, J. and Rothschild, Lord — a EV+V

Tyler, A. — c EV+V

Bielanska-Osuchowska, Mrs Z. — a (2)D

Ranzoli, F. — a	E	Strauss, F. — a	M
Bernstein, G. S. — a	G	f Activation and fertilization	
Ficq, Mrs A. A. — c	(1)G	Gray, J. and Rothschild, Lord — a	
Vannini, E. — a	(2)G	Benazzi, M. — a	C
Ranzoli, F. — a	H	Colwin, A. L. and	
Takeuchi, K. — a	I	Colwin, Mrs L. H. — a	C
Vannini, E. — a	(2)I	Dan, Mrs J. C. — b	E
Yamamoto, K. — a	I	Aketa, K. — a	(1/2)G
Bernstein, G. S. — a	J	Ando, S. — b	(1)G
Bieber, S. — a	(1)J	Bernstein, G. S. — b	G
Frazer, J. F. D. — a	J	Colwin, A. L. and	
Ficq, Mrs A. A. — c	(1)J	Colwin, Mrs L. H. — a	G
Ficq, Mrs A. A. — d	(2a)J	Endo, Y. — b	G
Glenister, T. W. — d	(6)J	Hagström, B. E. — a	G
Kemp, N. E. — a	J	Hori, R. — a	(3)G
Rostand, J. — c	J	Immers, J. — a	(1/2)G
Stefanelli, A. — d	J	Ishikawa, M. and	
Vannini, E. — a	(2)J	Sugiyama, M. — a	G
Stefanelli, A. — d	L	Nakano, E. — a	G
Austin, C. R. — a	M	Numanoi, H. — a	(2)G
Beatty, R. A. — e	M	Runnström, J. A. M. — b	G
Bernstein, G. S. — a	M	Swann, M. M. — a	G
Bishop, D. W. — a	(1)M	Tyler, A. — a	G
Bishop, D. W. — b	M	Colwin, A. L. and	
Bishop, D. W. — c	(2a)M	Colwin, Mrs L. H. — a	H
Bishop, M. W. H. — a	M	Dettlaff, Mrs T. A. — a	(5)I
Bodin, N.-O., Lindahl, P. E. and		Dettlaff, Mrs T. A. — b	(2)I
Ross, S. — a	M	Hori, R. — a	(3)I
Bryan, J. H. D. — a	(2c)M	Ito, S. — a, b, c	I
Edwards, R. G. and		Kanoh, Y. — b	I
Sirlin, J. L. — c	M	Kemp, N. E. — d	I
Glenister, T. W. — d	(6)M	Nakano, E. — a	I
Graumann, W. — a	(2c)M	Yamamoto, T. — a	I
Katsh, S. — a	(5)M	Bernstein, G. S. — b	J
Kihlström, J.-E. — a	M	Austin, C. R. — a	M
MacMillan, E. W. — b	M	Beatty, R. A. — c	M
Roosen-Runge, E. C. — a	M	Belaisch, J., Moricard, R. and	
d Maturation		Gothié, Miss M. M. C. S. — a	M
Bodenstein, D. — b	(6)D	Bishop, M. W. H. — a	M
Ando, S. — a	I	Chang, M. C. — a, b, e	M
Humphries, A. A. — a	J	Edwards, R. G. — b	M
Belaisch, J., Moricard, R. and		Gothié, Miss M. M. C. S. and	
Gothié, Miss M. M. C. S. — a	M	Moricard, R. — a	M
Bryan, J. H. D. — b	(2c/4)M	g Parthenogenesis	
e Ovulation and oviposition		Ishikawa, M. and	
Kawakami, Mrs K. I. — e	E	Sugiyama, M. — a	G
Chang, C. Y. and		Witschi, E. — a	(1)J
Witschi, E. — b	J	Schlesinger, A. B. — a	(2/3)L
Gothié, Miss M. M. C. S. and		Chang, M. C. — c, e	M
Moricard, R. — a	M		

5 *Cleavage and mitosis*a *Cleavage*

Dan, K. — a	G
Dan, K. — b	(2)G
Geilenkirchen, W. L. M. and Zeuthen, E. — c	(4)G
Hiramoto, Y. — a	G
Kane, R. E. — a	(2c)G
Kojima-Kuno, M. — a	G
Sakai, H. — a	(2)G
Swann, M. M. — a	G
Zeuthen, E. — a	(1)G
Nicholas, J. S. — k	V
Belaisch, J., Moricard, R. and Gothié, Miss M. M. C. S. — a	M
Chang, M. C. — a	M

b *Mitosis*

Okazaki, R. and Okazaki, Mrs T. — b	(1/2)P
Swann, M. M. — b	P
Kuriki, Y., Okazaki, R. and Okazaki, Mrs T. — a	(1/2)G
Kuriki, Y., Okazaki, R. and Okazaki, Mrs T. — a	(1/2)J
Kuriki, Y., Okazaki, R. and Okazaki, Mrs T. — a	(1/2)L
Bryan, J. H. D. — b	(2c/4)M

6 *Further development of
Invertebrates*a *General subjects (including
complete development)*

Bautzmann, H. — c	EV
Billet, F., Perry, Miss M. M. and Waddington, C. H. — a	(5)EV
Cigada-Leonardi, Mrs M. — a	(1)EV
Mancuso, V. — a	(1/2)EV
Minganti, A. — c	(1)EV
Reverberi, G. — a	EV
Dasgupta, B. — a	(2c)P
Hanson, E. D. — b	(2)P
Mookerjee, S., Hajra, B., Waidyasekara, L. and Alamelu, M. G. — a	(2)P
Brøndsted, H. V. — b	A
Ganguly, B. — a	(2c)A
Mookerjee, S., Ganguly, B. and Chowdhury, M. — c	A

Lallier, R. A. — e	B
Mookerjee, S., Sanyal, S., Nagarajan, S. N. and Sinha, A. — b	B
Amy, R. L. — b	(4)D
Bodenstein, D. — d	(6)D
Brunold, Miss E. — a	(2)D
Crisp, D. J. — a	D
Denucé, J. M. — a	D
Engelmann, F. — a	(6)D
Isings, J. — a	D
Jones, B. M. — b	(3)D
Jura, Cz., Krzysztowicz, Miss A., and Węglarska, Miss B.	— b (2b)D
Kato, M. — a	D
Kato, M. — a	D
Ludwig, D. — a, b	(1)D
Perry, Miss M. M., Waddington, C. H. and Selman, G. G. — b	(2c)D
Pflugfelder, O. — a	(1/6)D
Rae-Wickham, Mrs C. A. — a	(6)D
Rockstein, M. — a	D
Rockstein, M. — b	(2a)D
Seidel, F. — b	D
Shulov, A. — a	D
Shulov, A. — b	(1/2)D
Tahmisian, T. N. — a	(1)D
Takami, T. — a	D
Geilenkirchen, W. L. M. — a	(1)E
Kawakami, Mrs K. I. — c	(1)E
Schneider, D. — a	F
Bäckström, S. A. A. — a	(1)G
Immers, J. — a	(1/2)G
Kaltenbach, Mrs J. C. and Perlmann, H. P. — a	(2)G
Lindberg, N. O. H. — a	(1/2a)G
Nakano, E. — a	G
Ranzi, S. — a	(2a)G
Yanagisawa, T. — b	(1)G
Durante, Miss M. — b	(1/2)H
Evola-Maltese, Mrs C. — a	(1/2)H
Fischiarolo, G. — b	(1)H
Restivo, Miss F. — a	(2a)H

b „Primitiventwicklung“
(including early development)

Mancuso, V. — b	EV
Mulnard, J. O. — b	(2c)C
Amy, R. L. — a	(4)D

Clement, A. C. — b	E
Clement, A. C. — c	(1/2c)E
Pasteels, J. — b	(2)E
Ando, S. — b	(1)G
Butros, J. M. — a	(1/3)G
Cheney, R. H. — d	(1/5)G
Gustafson, T. — a	G
Maggio, Miss R. — a	(1)G
Monroy, A. — a	G
Mulnard, J. O. — b	(2c)G
Okazaki, Miss K. — b	G
Pasteels, J. — b	(2)G
Tyler, A. — b	G
Dalcq, A. M. — a	(2c)H
c Induction and determination	
Hörstadius, S. — a	G
Hultin, J. M. T. — a	(1)G
Runnström, J. A. M. — a	G
d Development of part of the organism	
e Development of special organ systems	
<i>Skin</i>	
<i>Nervous system</i>	
Hubl, H. — a	C
Olsson, R. — b	H
<i>Special sense organs</i>	
Bodenstein, D. — e	(2a)D
<i>Skeleton</i>	
<i>Muscular system</i>	
<i>Alimentary tract</i>	
<i>Respiratory organs</i>	
<i>Heart, vascular system and blood</i>	
<i>Coelomic cavities and endothelia,</i>	
<i>lymphatic system and connective</i>	
<i>tissue</i>	
<i>Urogenital system and sexual</i>	
<i>differentiation</i>	
Lallier, R. A. — d	C
Legrand, J. J. — a	D
Pantelouris, E. M. — a	D
<i>Endocrine glands</i>	
Jones, B. M. — a	D
Pflugfelder, O. — e	D
f Histo- and cytochemistry	
Gustafson, T. — d	(1)

Pasteels, J. — c	EV
Hajra, B. — a	P
Hamburger, K., Plesner, P. and	
Zeuthen, E. — a	P
Mulnard, J. O. — b	C
Weber, R. — a	C
Baltus, Miss E. — a	G
Mulnard, J. O. — b	G
Dalcq, A. M. — a	H
g Serological studies	
Finger, I. — a	P
Gregg, J. H. — a	P
Brookbank, J. W. — a, b	G
Kaltenbach, Mrs. J. C. and	
Perlmann, H. P. — a	G
Ranzi, S. — a	G
Tyler, A. — d	G
7 Further development of	
Vertebrates	
a General investigations	
<i>General subjects</i>	
Castigli-Pitotti, Mrs. M. — c	(1)
Hartwig, H. — a	(6)
Kuhn, O. — a	(6)
Vanderhaege-Hougardy,	
Mrs F. — a	
Bautzmann, H. — c	V
Cigada-Leonardi, Mrs M. — a	(1)V
Devillers, Ch. — a	I
Gilbert, P. W. — b	I
Nakano, E. — a	I
Takeuchi, K. — a	I
Tracy, H. C. — b	I
Zotin, A. I. — a	(1)I
Bäckström, S. A. A. — a	(1)J
Bieber, S. — a	(1)J
Billett, F. — b	(2a)J
Bondi, C. — b	J
Brachet, J. L. A. — c	(2a)J
Cheney, R. H. — f	(5)J
Curtis, A. S. G. — a	(3)J
Dent, J. N. — a	(1)J
Deuchar, Miss E. M. — a	(1/5)J
Ficq, Mrs A. A. — a	(5)J
Finamore, F. J. — a	(2a)J
Finamore, F. J. — b	(2b)J
Goto, T. — a	(2a)J
Gregg, J. R. — a, b	(1)J
Hunt, E. L. — a	(1)J

Karasaki, S. — b J
 Kemp, N. E. — b (1)J
 Lallier, R. A. — a (2)J
 Liedke, Mrs K. Beyer — a (5)J
 Liotti, F. S. — a (1)J
 Løvtrup, S. — b (1/4)J
 Mookerjee, S., Adhikari, S.,
 Balasubramaniam, K.,
 Nurjahan, Miss B. and
 Bose, Miss A. — d J
 Moore, Mrs B. Clark — b (2c)J
 Nace, G. W. — a (2a)J
 Nicholas, J. S. — d, e J
 Norman, C. — a (2c)J
 Okano, H. — b J
 Perry, Miss M. M.,
 Waddington, C. H. and
 Selman, G. G. — b (2c)J
 Peters, Th. — a (4)J
 Ranzi, S. — a (2a)J
 Rappaport, Jr, R. — a J
 Raunich, L. — f (2)J
 Rocca, E. — a (2/3)J
 Rosenbaum, R. M. — a (1)J
 Selman, G. G. — b (3)J
 Singer, M. — a (5)J
 Stefanelli, A. — c J
 Steinberg, M. S. — a J
 Stultz, W. A. — a J
 Thomason, Miss D. — a (4)J
 Tiedemann, H. — a (2)J
 Tiedemann-Waechter,
 Mrs. H. — a (2)J
 Tomita, H. — b J
 Vahs, W. — c (5)J
 Volpe, E. P. — a (4)J
 Yanagisawa, T. — a (1)J
 Bautzmann, H. — b HV
 Wolff, Mrs Em. — b (1)HV
 Clark, H. — a K
 Tencer, Miss R. — a (2a)L
 Barbieri, F. D. — a (4)L
 Beard, R. G. — a (2a)L
 Billett, F. — b (2a)L
 Bose, A. — a (2a)L
 Clark, H. — a (1)L
 Croisille, Y. — b L
 Curtis, A. S. G. — a (3)L
 Feldman, M. and
 Yaffe, D. — a (2a)L
 Fraser, R. C. — a L

Gonzalez, F. — a, b (4)L
 Gonzalez, F. — c (2a)L
 Hamilton, H. L. — a (1)L
 Horn, E. C. — a (2c)L
 Horn, E. C. — b (5)L
 Jones, B. M. — b (3)L
 Konigsberg, I. R. — a (1/6)L
 Lanzavecchia, G. — a (1)L
 Markert, C. L. — d (1)L
 Menkes, B. — c (2a)L
 Moog, Miss F. — a (1)L
 Mookerjee, S., Adhikari, S.,
 Balasubramaniam, K.,
 Nurjahan, Miss B. and
 Bose, Miss A. — d L
 Rembieliński, B. — a (5)L
 Romijn, C. — a, b (1)L
 Rudnick, Miss D. — a (1)L
 Stefanelli, A. — c L
 Steinberg, M. S. — a L
 Wilt, F. H. — b (5)L
 Williams, J. — a (2a)L
 Alexander, G. — a M
 Adams, Miss E. C., Hertig, A. T.
 and McKay, D. G. — b (2)M
 Austin, C. R. — a M
 Berg, G. G. — b (2)M
 Bishop, M. W. H. — a M
 Caspari, E. W. — a M
 Feldman, M. and
 Yaffe, D. — a (2a)M
 Fitzgerald, L. R. — a (4)M
 Fitzgerald, L. R. — c (1)M
 Grobstein, C. — a M
 Hintzsche, E. — a (1)M
 Hoessels, Miss E. L. M. J.
 — c (2a)M
 Hunt, E. L. — b M
 Langman, J. — b (2a)M
 Markert, C. L. — d (1)M
 Moog, Miss F. — a (1)M
 Moog, Miss F. — b (6)M
 Mulnard, J. O. — a (1/2)M
 Nicholas, J. S. — d, e (1/2)M
 Osawa, S. and
 K. Takata — b (2a)M
 Pantelouris, E. M. — b (2a)M
 Petry, G. — a M
 Seidel, F. — a M
 Stein, Miss K. F. — b (2b)M
 Waelsch, Mrs S. Gluecksohn — b M

- Wrba, H. — a (1)M
Complete development
 Gilbert, P. W. — b I
Later development
 Battle, Miss H. I. — d (5)I
 Ignatjeva, Mrs G. M. — a (2a)I
 Fitzgerald, L. R. — b (1)M
Implantation and placentation
 Belaisch, J., Moricard, R. and
 Gothié, Miss M. M. C. S. — a M
 Böving, B. G. — b M
 Corner, Jr, G. W.,
 Ramsey, Miss E. M. and
 W. N. Long — a M
 Feo, V. J. De — b (5)M
 Feo, V. J. De — c M
 Gitlin, G. — c M
 Graumann, W. — a (2c)M
 Hamilton, W. J. and
 Harrison, R. J. — b M
 Pincus, G. — a M
 Ramsey, Miss E. M. — b M
 Reynolds, S. R. M. — b M
 Wimsatt, W. A. — a (2b)M
Development of behaviour
 Bautzmann, H. — c V
 Armstrong, P. B. — b I
 Harris, J. E. and
 Whiting, H. P. — a I
 Tracy, H. C. — a I
 Armstrong, P. B. — b J
 Fankhauser, G. — c J
 Sládeček, F. — a J
 Menkes, B. — d L
 Hooker, D. — a, b M
 Hooker, D. and
 Humphrey, Miss T. — c M
 Humphrey, Miss T. — a M
 Rugh, R. — d (4)M
b „Primitiventwicklung“
(including early development)
 Inoue, Miss K. and
 Ishikawa, T. — a, b (2a)
 Hishida, T. and
 Nakano, E. — a (1)I
 Bautzmann, H. — a J
 Deuchar, Miss E. M. — b (1)J
 Green, Mrs E. U. — a (2c/5)J
 Ikushima, N. — a J
 Spratt Jr, N. T. — a (1)L
 Spratt Jr, N. T. — b (1/2)L
 Spratt Jr., N. T. — e L
 Adams, Miss E. C., Rock, J.,
 Mulligan, W. J. and
 Hertig, A. T. — a (2)M
 Böving, B. G. — c M
 Dalcq, A. M. — a (2c)M
 Edwards, R. G. and
 Sirlin, J. L. — c (1)M
 Jurand, A. — c (5)M
Early development
 Lovtrup, S. — c J
Gastrulation
 Amelio, V. D' — a (2a)J
 Céas, Miss M. P. — a (2a)J
 Lovtrup, S. — c J
 Tencer, Miss R. — c (1)J
Neurulation
Development of neural crest
c Induction and determination, etc.
Induction
 Becker, U. — a J
 Brachet, J. L. A. — d (2a)J
 Brahma, S. K. — a (3)J
 Brahma, S. K. and
 Sirlin, J. L. — c (2)J
 Ficq, Mrs A. A. — b J
 Fujii, T. — b (2)J
 Hama, T. — a (2)J
 Holtfreter, J. K. F. — a J
 Jansen, J. G. O. — a J
 Johnen, Miss A. G. — b J
 Kawakami, I. — c, d J
 Kuusi, Miss T. K. — a, b, c, d J
 Mifune, S. — b (2)J
 Nieuwkoop, P. D. — b J
 Osawa, S., K. Takata and
 T. Yamada — a J
 Saxén, L. O. and
 Toivonen, S. I. — a J
 Schreiber, B. — a J
 Tencer, Miss R. — b J
 Vahs, W. — b (2)J
 Woerdeman, M. W. — c J
 Schreiber, B. — a L
 Woerdeman, M. W. — c L
 Kawakami, I. — c, d M
 Mifune, S. — b (2)M

Osawa, S., K. Takata and
T. Yamada — a M

Determination

Regulation and organization

Tamanoi, I. — a (2)J

Kawakami, I. — a M

Tamanoi, I. — a (2)M

**d Development of part of the
organism**

Head

Extremities

Milaire, J. — a (2c)V

Stultz, W. A. — b J

Hinrichsen, K. — a (2)M

Tail

**e Development of special organ
systems**

Skin

General subjects

Preto Parvis, Mrs V. — d (2b)M

Exo-skeleton

Teeth

Greulich, R. C. — b (2b/3)V

Hinrichsen, K. — a (2)M

Hair, horns, nails

Isings, J. — b M

Feathers

Sense organs

Glands

Gomot, L. — a L

Cohn, S. A. — b (2)M

Mammæ

Pigment cells and patterns

Hama, T. — c (2)I

Matsumoto, J. — a (2a)I

Mori, Y. — b (2)I

Hama, T. — c (2)J

Obika, M. — a (2a)J

Tomita, H. — b J

Ebert, J. D. — c (2b)L

Hamilton, H. L. — b L

Saunders, J. W. — b L

Willier, B. H. — b L

Saunders, J. W. — b M

Nervous system

General subjects

Tracy, H. C. — a I

Lavarack, J. O. — a (2)L

Hoessels, Miss E. L. M. J.

— c (2a)M

Preto Parvis, Mrs V. — a (2c)M

Central nervous system

Olsson, R. — b V

Shen, S. C. — a (2)V

Boell, E. J. — b (1)J

Keller, L., Roofe, P. G. and

Wenger, Mrs E. L. — a (2b)J

Roofe, P. G., Mrs E. L. Wenger

and B. S. Wenger — a (2a/c)J

Stultz, W. A. — a J

Tencer, Miss R. — b J

Boell, E. J. — b (1)L

Watterson, R. L. — d, h (2/6)L

Wenger, B. S. — c (2a/b)L

Wytttenbach, C. R. — a (2)L

Brain

Miale, Miss I. — a (2b)V

Oksche, A. A. — c V

Chang, C. Y. — a J

Szentágothai, J. — a (5)J

Assenmacher, I. — a L

Gayet, J. F. — a (2a)L

Gayet, J. F. and

Bonichon, Miss A. — c (2c)L

Gayet, J. F. and

Schwander, J. — b (2a)L

Schalekamp, M. A. D. H. — a (2a)L

Ariëns Kappers, J. — a (2)M

Preto Parvis, Mrs V. — c (2)M

Spinal cord

Accessory organs

Paraphysis

Parietal organ

Pineal body

Zwan, A. Van der — a

Pflugfelder, O. — c I

Pflugfelder, O. — c J

Pflugfelder, O. — c K

Andres, M. Y. — a L

Pflugfelder, O. — c L

Venzke, W. G. — a L

*Hypophysis (see also under
endocrine glands)*

Assenmacher, I. — a L

Ganglia
Cephalic ganglia
 Székely, G. — a J
Spinal ganglia
Nerves
 Shen, S. C. — b J
Para- and sympathetic and intramural nervous system
Para- and sympathetic nervous system
 Guth, L. — a M
Intramural nervous system
Special sense organs
Nasal organ
Eye
 Stone, L. S. — e J
 Harrison, J. R. — a L
 Meyer, D. B. and
 O'Rahilly, R. — a (2b)L
Eye (s.s.)
 Lopashov, G. V. — a J
 Stroëva, Miss O. G. — c (5)J
 Takisawa, A. — b (2)J
 Coulombre, A. J. and
 Coulombre, J. L. — b, d L
 Coulombre, A. J. and
 Coulombre, J. L. — g (2b)L
 Takisawa, A. — b (2)M
Lens
 Cate, G. ten — a (2)J
 Cate, G. ten — a (2)L
 Doorenmalen, W. J. van — a (2b)L
 Langman, J. — a (2a)L
Ear
Skeleton
General subjects
 Greulich, R. C. — b (2b/3)V
 Okada, T. and
 Waddington, C. H. — a J
 Schreiber, B. — a (2a)J
 Sirlin, J. L. and
 Waddington, C. H. — d J
 Kieny, Mrs M. A. — a (1)L
 Schreiber, B. — a (2a)L
 Okada, T. and
 Waddington, C. H. — a M
Embryonic temporary endo-skeleton
Skull and visceral skeleton
Truncal skeleton
 Lavarack, J. O. — a (2)L

Skeleton of extremities
Joints
 Muratori, G. — a (2)L
Muscular system
General subjects
 Muchmore, W. B. — b (2a)J
 Wilde Jr, C. E. — c (2a)J
 Hayashi, Y. — a (2a)L
 Herrmann, H. and
 Konigsberg, Mrs U. R. — b L
 Herrmann, H., Konigsberg, I. R.
 and Samuels, A. J. — a (2)L
 Wilt, F. H. — c (1)L
Skeletal muscles (head, trunk and tail)
Visceral muscles (head and trunk)
Muscles of extremities
 Templeton, M. and
 Wenger, B. S. — a (2a)L
Alimentary tract
General subjects
Mouth- and pharyngeal cavity
Intestinal tract
 Sigot, A. — a (1/2)L
 Sigot, M. — a (1/2)L
 Konopacka, Mrs B. — a (2)M
 Konopacka, Mrs B. — b M
Proctodaeum
Salivary glands
Liver
 Armstrong, P. B. — a I
 Armstrong, P. B. — a J
 Weston, J. C. — a (2a/6)L
 Dick, D. A. T. — a M
Pancreas
Respiratory organs
General subjects
 Boell, E. J. — c J
External gills
Internal gills
Lungs and larynx
 Wolff, Mrs Em. — a L
 Gruenwald, P. — b M
 Reynolds, S. R. M. — c M
Heart, vascular system and blood
General subjects
 Condorelli, M. — a M
Heart
 Ebert, J. D. and
 R. F. Ruth — a (2a)L

Ebert, J. D. and R. F. Ruth — b	(1)L	Querner, H. — a	I
Haan, R. L. De — a	(1)L	Rechenmann, R., Vivien, J. H. and Schott, J. — a	I
Haan, R. L. De — b	(5)L	Dimond, Sister M. T. — a	K
Chang, M. C. — d	(4)M	Deth, J. H. M. G. van — a	L
Hall, E. K. — a	(5)M	Konigsberg, I. R. — a	L
Arterial and venous system		Deth, J. H. M. G. van — a	M
Muratori, G. — b	(2)L	Jost, A. D. — a	M
Reynolds, S. R. M. — a, c, d	M	Moog, Miss F. — b	M
Capillary system		Schaberg, A. — b	M
Blood		Wells, L. J. — b	M
Manelli, E. — e	(2a)J	Hypophysis (see also under nervous system)	
Lemež, L. — a	L	Nowakówna, Miss J. — a	V
Venzke, W. G. — b	L	Radecka, Mrs E. Erdman — a	V
<i>Coelomic cavities and endothelia, lymphatic system and connective tissue</i>		Sembrat, K. — c	V
Coelomic cavities and endothelia		Székely, G. — b	J
Lymphatic system		Thurmond, W. — a, c	J
Connective tissue		Tixier-Vidal, Mrs A. — b	L
Preto Parvis, Mrs V. — b	(2b)L	Thymus	
Menschik, Z. — b	M	Thyroid gland	
<i>Urogenital system and sexual differentiation</i>		Nowakówna, Miss J. — a	V
General subjects		Radecka, Mrs E. Erdman — a	V
Stenger—Haffen, Mrs K. E. — c	(1)L	Sembrat, K. — c	V
Backhouse, K. M. — a	M	Brodowa, Mrs Ch. Grabie — a	J
Kidneys; nephric ducts and bladder		Kościelski, B. — a	J
Lynn, W. G. — b	J	Lynn, W. G. — a	J
Konopacka, Mrs B. — c	(2b)M	Dossel, W. E. — c	L
Gonads		Sanir, Miss E. K. — a	L
Foote, Ch. L. and Foote, Mrs. F. M. — b	J	Parathyroid glands	
Stefan, Miss Y. and Vivien, J. H. — a	K	Gaillard, P. J. — b	L
Genital tracts		Gonads	
Stefan, Miss Y. and Vivien, J. H. — a	K	Leroy, P. J. M. — a	L
Accessory glands		Benirschke, K. — a	M
Sexual differentiation		Adrenals	
Hanaoka, K. I. — b	J	Willier, B. H. — a	L
Chang, C. Y. — c	J	Kuński, H. — a	(2b)M
Jost, A. D. — b	M	Pancreas	
Endocrine glands		f Histo- and cytochemistry	
General subjects		Fedoroff, S. — a	(2/4)
Witschi, E. — f	V	Gustafson, T. — d	(1)
		Sausser, G. — b	
		Kanoh, Y. and Yamamoto, T. S. — c	I
		Berg, G. G. — a	(1)J
		Boell, E. J. — a	J
		Moore, Mrs B. Clark — b	J
		Schreiber, G. — a	J
		Stefanelli, A. — e	J

Weber, R. — a J
 Beard, R. G. — a L
 Clark, H. and Goldie, M. — d L
 Lavarack, J. O. — a L
 Preto Parvis, Mrs V. — b L
 Schreiber, G. — a L
 Stefanelli, A. — e L
 Berg, G. G. — a (1)M
 Dalcq, A. M. — a M
 Graumann, W. — a M
 Johnson, F. R. — a M
 Martin, B. F. — a M
 Preto Parvis, Mrs V. — d M
 Roncoroni, G. — a M
 Schreiber, G. — a M

g Serological and immunological studies

Fedoroff, S. — b J
 Inoue, Miss K. and
 Ishikawa, T. — a J
 Bondi, C. — d J
 Clayton—Freedman,
 Mrs R. M. — a J
 Kaltenbach, Mrs J. C. — c J
 Manelli, E. — a J
 Muchmore, W. B. — b J
 Nace, G. W. — a, b, c J
 Ranzi, S. — a J
 Tamanoi, I. — a J
 Vainio, E. T. — b, c J
 Billett, F., Clayton-Freedman,
 Mrs R. M. and Frohlich, A. — c L
 Ebert, J. D. — c L
 Ebert, J. D. and R. F. Ruth — a L
 Feldman, M. and Yaffe, D. — a L
 Langman, J. — a L
 Medawar, P. B. — a L
 Saunders, J. W. — g L
 Schalekamp, M. A. D. H. — a L
 Brambell, F. W. R. — a M
 Clayton—Freedman,
 Mrs R. M. — d M
 Feldman, M. and Yaffe, D. — a M
 Halliday, R. — a M
 Hemmings, W. A. — a M
 Kelly, W. A. — a M
 Medawar, P. B. — a M
 Morris, I. G. — a M
 Saunders, J. W. — g M
 Short, B. F. — a M

Tamanoi, I. — a M

8 Growth and differentiation (Invertebrates and Vertebrates)

a Growth

Mitchison, J. M. — a P
 Swann, M. M. — b P
 Rockstein, M. — a D
 Tuft, P. H. — a D
 Gustafson, T. — b (2/6)G
 Greulich, R. C. — b (2b/3)V
 Wurmbach, H. — a (6)V
 Baxter, E. W. — c I
 Lahaye, Mrs J. — b (6)I
 Tuft, P. H. — a I
 Andres, G. — a J
 Green, Mrs E. U. — a (2c/5)J
 Gustafson, T. — b (2/6)J
 Rappaport, Jr, R. — a J
 Tisna-Amidjaja, D. A. — a J
 Tuft, P. H. — a J
 Wurmbach, H. — b J
 Andres, G. — a L
 Wurmbach, H. — b L
 Beatty, R. A. — c M
 Heim, W. G. — a M

a/b Growth and differentiation

Olbrich, E. — a (3)
 Vanderhaege-Hougardy,
 Mrs F. — a
 Hamburger, K., Plesner, P. and
 Zeuthen, E. — a (1/2a)P
 Elbers, P. F. — a E
 Foote, Ch. L. and
 Foote, Mrs F. M. — b J
 Stefanelli, A. — c J
 Wolff, Mrs Em. — b HV
 Croisille, Y. — b L
 Ebert, J. D. — d L
 O'Connor, R. J. — b (1)L
 Stefanelli, A. — c L
 Bryan, J. H. D. — d (2a)M
 O'Connor, R. J. — b (1)M

b Differentiation

Chiquoine, A. D. — a (2c)
 Finger, I. — a P
 Mookerjee, S., Sanyal, S.,
 Nagarajan, S. N. and
 Sinha, A. — b B

Sanyal, S. — a	B	9 <i>Nutrition of embryo</i>	
Sirlin, J. L. — a	(1)D	(<i>Invertebrates and Vertebrates</i>)	
Lopashov, G. V. — b	(5)I	Macfadyen, A. — a	C
Clayton—Freedman, Mrs R. M. — a	J	Baxter, E. W. — c	I
Løvtrup, S. — a	(2/4)J	Tisna-Amidjaja, D. A. — a	J
Sirlin, J. L. — a	(1)J	Harrison, J. R. — a	L
Wilde Jr, C. E. — b	(2)J	Herrmann, H. and Konigsberg, Mrs U. Rothfels — b	(6)L
Wilde Jr, C. E. — c	(2a)J	Schlesinger, A. B. — a	L
Grabowski, C. T. — a, b, c	L	Simon, Mrs D. — a	L
Markert, C. L. — c	L	Spratt Jr, N. T. — a	L
Sirlin, J. L. — a	(1)J	Williams, J. — a	L
Clayton—Freedman, Mrs R. M. — d	M	Witschi, E. — g	L
Grobstein, C. — a	M	Menschik, Z. — a	M
Markert, C. L. — c	M	Miller, J. R. — a	M
		Runner, M. N. — b	M
		Wrba, H. — a	M

IV. DEVELOPMENT AND GENETICS

SUBDIVISION

- 1 *Theoretical problems and general questions*
- 2 *General genetical studies*
 - a General studies
 - b Heteroploidy
 - c Hybridization
 - d Chimaera
 - e Merogony
- 3 *Analysis of influence of special genes and mutants*
 - a Special genes and mutants
 - b Lethal factors
- 4 *Phenocopies*

CHARACTER OF INVESTIGATION

- (1) Metabolism and respiration
- (2) a) Biochemistry, b) Histochemistry, c) Cytochemistry
- (4) Physical treatment
- (6) Influence of hormones and vitamins

1 <i>Theoretical problems and general questions</i>		Naylor, E. — a	C
Landauer, W. — e	L	Papi, F. — a	C
Runner, M. N. — d	M	Asturov, B. L. — d	(4)D
2 <i>General genetical studies</i>		Barigozzi, C. — a	D
a <i>General studies</i>		Geyer-Duszyńska, Mrs I. — a, b	D
Callan, H. G. — a		Johnson, G. — a	D
Finger, I. — a	P	Legrand, J. J. — a	D
Benazzi, M. — a	C	Poulson, D. F. — b, d	D
		Rothenbuhler, W. C. — a, b	D
		Ulrich, H. — a	(4)D

Baxter, E. W. — b	I
Hishida, T. — c	I
Alonso, Miss M. — a	J
Bondi, C. — c	J
Colombo, G. — a	J
Curtis, A. S. G. — a	J
Elsdale, T. R. and Fischberg, M. — a	J
Humphries, A. A. — b	J
Moore, J. A. — a	J
Volpe, E. P. — b	J
Witschi, E. — c	J
Bellvomini, H., Hoge, A. and Schreiber, G. — a	K
Curtis, A. S. G. — a	L
Mintz, Miss B. — b	L
Beatty, R. A. — b, e	M
Braden, A. W. H. — a	M
Caspari, E. W. — a	M
Fraser, F. C. — b	M
Gates, A. H. — b	M
Harrison, G. A. — a	(4)M
Harrison, G. A. — b, c	M
Huber, W. — a	M
McLaren, Mrs. A. and Michie, D. — a	M
Mintz, Miss B. — b	M
Rugh, R. — a	M
Sawin, P. B. — a	M
Waelsch, Mrs S. Gluecksohn — a	M
b Heteroploidy	
Benazzi, M. — a	C
Costello, D. P. — a	C
Astaurov, B. L. — a	D
Rothenbuhler, W. C. — b	D
Fankhauser, G. and Humphrey, R. R. — a	J
Fankhauser, G. — b, c	J
Rosenbaum, R. M. — b	(2c)J
Rostand, J. — a	J
Schreiber, G. — a	J
Schreiber, G. — a	L
Beatty, R. A. — a	M
Edwards, R. G. — a	M
Schreiber, G. — a	M
c Hybridization	
Astaurov, B. L. — b	D
Moore, A. R. — b	G
Minganti, A. — a	H

Benazzi, M. — b	J
Brachet, J. L. A. — a	(1)J
Finamore, F. J. — c	(1)J
Gregg, J. R. — a, b	(1)J
Moore, Mrs B. Clark — a	(2)J
Moore, J. A. — c	J
Sawin, P. B. — c	M
Tisna-Amidjaja, D. A. — b	J
d Chimaera	
Baltzer, F. and Chen, P. S. — b	J
Romanovský, A. — b	J
Mitchison, N. A. — a	L
Wolf, Et. C. — f	L
Wolff, Et. C. — f	M
e Merogony	
Astaurov, B. L. — b	D
Ortolani, Miss G. — a	H
3 Analysis of influence of special genes and mutants	
a Special genes and mutants	
Okada, E., Waddington, C. H. and Perry, Miss M. M. — a	
Castiglioni, Miss M. C. — c	(2)D
Chounick, A. — a	D
Chounick, A. — b	(1)D
Counce, Miss S. J. — a, b	D
Ede, D. A. — a	D
Fujii, S. — a	D
Kaji, S. — a	D
Kühn, A. — b, c	D
Kühn, A. — d	(2)D
Löbbecke, E.-A. — a, b	D
Nef, W. and Rosin, S. — a	D
Poulson, D. F. — c, d	D
Waddington, C. H. — b	D
Wolsky, A. — a	D
Hishida, T., Yamamoto, T. and Tomita, H. — b	I
Kajishima, T. — a	I
Rostand, J. — b	J
Hollander, W. F. — d	L
Kieny, Mrs M. A. — b	L
Landauer, W. — a, c	L
Loewenthal, Miss L. A. — a	(2b)L
Mintz, Miss B. — a	L
Zwilling, E. — c	L
Borghese, E. — a	M
Bryan, J. H. D. — c	M

Carter, T. C. — a, b	M	b Lethal factors	
Caspari, E. W. — c	M	Benz, G. A. — a	(2a)D
Clayton—Freedman, Mrs R. M. — b	M	Chounick, A. — b	(1)D
Grüneberg, H. — a	M	Ede, D. A. — a	D
Hollander, W. F. — a, c	M	Shiomi, T. — a	D
Hummel, Miss K. P. — a, b	M	Baltzer, F. — a	G
Jost, A. D. — c	M	Moore, Mrs B. Clark — a	(1)J
Lyon, Miss M. F. — a, b, c	M	Hollander, W. F. — a, b	M
Markert, C. L. — a	M	Hummel, Miss K. P. — a	M
McNutt, C. W. — a, b	M	4 Phenocopies	
Sawin, P. B. — b	M	Kühn, A. — c	D
Stein, Miss K. F. — a	M	Wolsky, A. — a	D
Stein, Miss K. F. — b	(2b)M	Landauer, W. — d	L
Stevens, L. — b	M	Runner, M. N. — c	(1)M
Truslove, Miss G. M. — a	M	Walker, B. E. — b	M
Wolsky, A. — a	M	Wolsky, A. — a	M

V. DEVELOPMENT AND PATHOLOGY

SUBDIVISION

- 1 *Theoretical problems and general questions*
- 2 *General investigations in pathological development*
- a General subjects
- b Relation between host and graft
- c Pathological influence of chemical treatment and deficiencies
- d Pathological influence of physical treatment
- e Teratology
- 3 *Development of special malformations and pathological development of special organs*
- a Development of special malformations
- b Pathological development of special organs
(Cf. general subdivision p. 153—155)
- 4 *Tumours*
- 1 *Theoretical problems and general questions*
- Clegg, E. J. — b M
 Brunst, V. V. — b J || Runner, M. N. — d M | Liedke, Mrs K. Beyer — b J |
| | Rosenbaum, R. M. — a J |
| | Wurmbach, H. — b J |
| | Corliss, C. E. — c L |
| 2 *General investigations in pathological development* | Grabowski, C. T. — d L |
| a **General subjects** | Lutz, H. — b L |
| Fedoroff, S. — b | Lutz, H. and Lutz-Ostertag, Mrs Y. — e L |
| Geigy-Heese, R. — c D | Mintz, Miss B. — b L |
| Bretschneider, L. H. — a E | Robertson, G. G. — a L |
| Ashley, G. T. — a V | Wolff, Et. C. — a L |
| Lutz, H. and | Wurmbach, H. — b L |
| Lutz-Ostertag, Mrs Y. — c I | Bartelmez, G. W. — d M |
| | Dokter, H. J. — b M |

Giroud, A. — b	M
Gruenwald, P. — a, b, c	M
Gyllensten, L. J. W. — b	M
Hunt, E. L. — b	M
Katsh, S. — a	M
Mintz, Miss B. — b	M
Schröder, R. K. P. — a	M
Wells, L. J. — b	M

b Relation between host and graft

Anton, H. J. — b	J
Bondi, C. — c	J
Nicholas, J. S. — h	L
Felts, W. J. L. — d	M
Huygnard, C. — b	M
Nicholas, J. S. — h	M

c Pathological influence of chemical treatment and deficiencies

Kuhn, O. — c	
Geilenkirchen, W. L. M. and Raven, Chr. P. — b	E
Cheney, R. H. — c	G
Harvey, Mrs E. Browne — g	G
Bondi, C. — d	J
Cheney, R. H. — f	J
Dollander, A. and Marconnet, R. — c	J
Green, Mrs E. U. — a	J
Raunich, L. — e	J
Singer, M. — a	J
Bagiński, S. — b	L
Dokter, H. J. — a	L
Fowler, I. — c	L
Herrmann, H. and Königsberg, Mrs U. Rothfels — b	L
Landauer, W. — b	L
Watterson, R. L. — a, b, c	L
Corliss, C. E. — b	M
Fraser, F. C. — a	M
Giroud, A. — a	M
Lefebvres-Boisselot, Mrs J. — a	M
Martinet, Mrs M. — a, b	M
Menschik, Z. — a, b	M
Miller, J. R. — a	M
Walker, B. E. — b	M
Wilson, J. G. — a	M

d Pathological influence of physical treatment

Kirrmann, J. M. — a	
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Astaurov, B. L. — c	EV+V
Hanson, E. D. — a	P
Astaurov, B. L. — c, d	D
Bednjakova, Mrs T. A. — a	D
Brunold, Miss E. — a	D
Tahmisian, T. N. — a, b, c	D
Timmermans, C. J. — a	D
Ulrich, H. — a	D
Verejskaja, Miss V. N. — a	D
Cheney, R. H. — e	G
O'Brien, J. P. — d	V
Welander, A. D. — a	I
Borden, J. van der and Trampusch, H. A. L. — a	J
Luther, W. — b	J
O'Brien, J. P. — a, c	J
Peters, Th. — a	J
Reyss-Brion, Mrs M. — a	J
Stinson, B. D. — c	J
Thomason, Miss D. — a	J
Trampusch, H. A. L. — a	J
Barbieri, F. D. — a	L
Mintz, Miss B. — a	L
Reyss-Brion, Mrs M. — a	L
Borden, J. van der and Trampusch, H. A. L. — a	M
Bryan, J. H. D. — b, c	M
Chang, M. C. — f	M
Chase, H. B. — c	M
Hicks, S. P. — a	M
Hintzsche, E. — c	M
Hollander, W. F. — b, c	M
Luther, W. — b	M
Mintz, Miss B. — a	M
O'Brien, J. P. — c	M
Rugh, R. — c	M
e Teratology	
Krause, G. — a	D
Moore, A. R. — c	G
Pflugfelder, O. — b	I
Bagiński, S. — a	L
Pflugfelder, O. — b	L
Wolff, Et. C. — a	L
Giroud, A. — c	M
Shaner, R. F. — b	M

3 Development of special malformations and pathological development of special organs

a Development of special malformations

Witschi, E. — b	V
Rostand, J. — b	J
Landauer, W. — c	L
Watterson, R. L. — g	L
Adams, Miss E. C., McKay, D. G., Benirschke, K., Bardawil, W. and Hertig, A. T. — c	M
Chase, H. B. — a	M
Fraser, F. C. — b	M
Jost, A. D. — c	M
Lefebvres-Boisselot, Mrs J. — c	M
Settle, G. W. — a	M
Singer, R. — b, c	M
Walker, B. E. — b	M

b Pathological development of special organs*Skin*

Raynaud, A. — b, c	M
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Nervous system

Olsson, R. — b	H
Olsson, R. — b	V
Watterson, R. L. — a, b	L
Watterson, R. L. — g	L
Bailey, J. C. — a, b	M
Delmas, A. — b	M
Eayrs, J. T. — a	M
Faassen, F. van, Stam, F. and Scholten, F. C. — a	M
Giroud, A. — d	M
Huber, W. — a	M
Lefebvres-Boisselot, Mrs J. — b	M
Murakami, U. — a	M
Ramirez de Arellano, Miss M. I. R. and Ranck, J. — a	M
Sinclair, J. G. — b	M
Windle, W. F. — c	M

Special sense organs

Castiglioni, Miss M. C. — b	D
Delmas, A. — b	M
Rugh, R. — c	M
Schlesinger, A. B. — c	M

Skeleton

Takeuchi, K. — b	I
Sedra, S. N. — b	J
Watterson, R. L. — c	L
Felts, W. J. L. — c	M
Ford, E. H. R. — b	M

*Muscular system**Alimentary tract*

Foley, Mrs E. P. — a	M
Kleiss, E. — a	M

*Respiratory organs**Heart, vascular system and blood*

Dankmeijer, J. and Los, J. A. — a	V
Mitchison, N. A. — a	L
Rychter, Z. — b	L
Condorelli, M. — a	M
Dankmeijer, J., Snellen, H. A., Dekker, Miss A., and Ingen, Miss H. C. van — d	M
Reis, R. H. — a, b	M
Shaner, R. F. — a, c	M
Sinclair, J. G. — b	M
Stephan, Fr. — b	L

*Coelomic cavities and endothelia,
lymphatic system and connective
tissue*

Mitchison, N. A. — a	L
Menschik, Z. — b	M

*Urogenital system and sexual
differentiation*

Bielańska-Osuchowska, Mrs Z. — c	M
Boyer, C. C. — b	M
Roux, C. — a	M
Stevens, L. — a	M

4 Tumours

González-Ramirez, J. — a	
Vanderhaege-Hougardey, Mrs F. — a	
Wolff, Mrs Em. and Wolff, Et. C. — c	
Barigozzi, C. — a	D
Castiglioni, Miss M. C. — a	D
Hartung, E. W. — a	D
Curtis, A. S. G. — a	J
Holtfreter, J. K. F. — b	J
Kawakami, I. — d	J
Leone, V. — a	J
Norman, C. — a	J
O'Brien, J. P. — b	J
Saxén, L. O. and Toivonen, S. I. — a	J
Spirito, A. — a	J

Vaino, E. T. — a, c	J	Heim, W. G. — a	M
Curtis, A. S. G. — a	L	Kawakami, I. — d	M
Fraser, R. C. — d	L	Koecke, H.-U. — a	M
Koecke, H.-U. — a	L	Makino, S. — a, b	M
O'Connor, R. J. — b	L	O'Connor, R. J. — b	M
Saunders, J. W. — g	L	Saunders, J. W. — g	M

VI. REGENERATION

SUBDIVISION

- 1 *Theoretical problems and general questions*
- 2 *General investigations, including total regeneration*
- 3 *Partial regeneration*
 - a General subjects
 - b Tail regeneration
 - c Limb regeneration
 - d Regeneration of special organ systems
(Cf. general subdivision p. 153—155)

CHARACTER OF INVESTIGATION

- (4) Physical treatment
- (5) Chemical treatment
- (6) Influence of hormones and vitamins

1 <i>Theoretical problems and general questions</i>		Moment, G. B. — a, c	C
		Needham, A. E. — a	C
Polezhayev, L. V. — b	J	Pedersen, K. J. — a	C
		Ranzoli, F. — c	C
2 <i>General investigations, including total regeneration</i>		Spratt Jr, N. T. — c	C
		Stéphan-Dubois, Mrs Fr. — a	C
Kuhn, O. — d		Sugino, H. — a	C
Fauré-Fremiet, E. and		Wolff, Et. C. — c	C
Hamard, Miss M. — a	P	Kühn, A. — a	D
Mookerjee, S., Ganguly, B. and	P	Schneider, D. — c	F
Chowdhury, M. — c	A	Butler, E. G. — b	H
Mookerjee, S., Sanyal, S.,		Brunst, V. V. — c	J
Nagarajan, S. N. and		Coninck, L. A. P. De — a	J
Sinha, A. — b	B	Jochems, D. J. and	
Nagarajan, S. N. — a	B	Trampusch, H. A. L. — a	J
Stagni, Miss A. M. — a	B	Polezhayev, L. V. — b	J
Bondi, C. — a	C	Woerdeman, M. W. — c	J
Brøndsted, H. V. — a	C	Woerdeman, M. W. — c	L
Butros, J. M. — b	C	Jochems, D. J. and	
Ghirardelli, E. — c	C	Trampusch, H. A. L. — a	M
Greca, M. La — b	C		
Hubl, H. — a, b	C	3 <i>Partial regeneration</i>	
Kanatani, H. — a	C	a <i>General subjects</i>	
Kawakami, Mrs K. I. — a	C	Morgan, Miss J. A., Stock, A. and	
Kido, T. — a	C	O'Farrell, A. F. — a	(6)D

Voy, A. — a	D
Wolsky, A. — c	D
Kawakami, Mrs K. I. — c, d	E
Nowakówna, Miss J. — a	(6)V
Radecka, Mrs E. Erdman — a	(6)V
Sembrat, K. — c	(6)V
Wurmbach, H. — a	(6)V
Anton, H. J. — a	J
Benz, G. A. — b	J
Bieber, S. — a	J
Dent, J. N. — b	J
Jurand, A. — a	(5)J
Kiełbówna, Miss L. — a	(6)J
Kiortsis, V. — c	J
Lehmann, F. E. — d	J
Liotti, F. S. — b	J
Luther, W. — b	(4)J
Newth, D. R. — a	J
Rieck, A. F. — a	(6)J
Singer, M. — b, c	J
Stefanelli, A. — e	J
Stinson, B. D. — b	J
Wolff, Et. C. — c	J
Wolsky, A. — c	J
Stefanelli, A. — e	L
Johnson, F. R. — b	M
Luther, W. — b	(4)M
McMinn, R. M. H. — a	M
Mintz, Miss B. — a	M
b Tail regeneration	
Kiortsis, V. — b, c	J
Lehmann, F. E. — b	(5)J
Raunich, L. — b	(5)J
c Limb regeneration	
Goss, R. J. — a	I
Bodemer, C. W. — b	J
Butler, E. G. — a	J
Butler, E. G. — c	(4)J
Deck, J. D. — a, b, c	J
Faber, J. — a	J
Fraser, R. C. — c	J
Gitlin, G. — b	J
Glade, R. W. — a	J
Goss, R. J. — c	J
Kiortsis, V. — a	J
Lahaye, Mrs J. — a	J
Luther, W. — a	I
Mettetal, C. — a	J
Rieck, A. F. — b	J
Rieck, A. F. — c	(4)J

Singer, M. — a	(5)J
Singer, M. — b, c	J
Stinson, B. D. — a	(4/6)J
Thornton, C. S. — a	(4)J
Thornton, C. S. — b	J
Trampusch, H. A. L. — d	J
Yntema, C. L. — b	J
d Regeneration of special organ systems	
Naylor, E. — a	C
Pohley, H.-J. — a, b	D
<i>Skin</i>	
Luther, W. — a	J
Lender, Th. — b	C
<i>Nervous system</i>	
Bodenstein, D. — a	D
Olsson, R. — b	H
Olsson, R. — b	V
Stefanelli, A. — b	V
Kollros, J. J. — c, e	J
Leghissa, S. and Pasquini, P. — a	(5)J
Romanovský, A. — a	J
Menkes, B. — b	L
Polezhayev, L. V. — c	M
Windle, W. F. — a	M
<i>Special sense organs</i>	
Lender, Th. — a	C
Eguchi, G. — a	J
Frost, D. — a	J
Lopashov, G. V. — c	J
Mazzoni-De Cesare, Mrs. I. and Pasquini, P. — a	J
Mina, E. Y. — b	J
Reyer, R. W. — b	J
Reyer, R. W. and Stone, L. S. — a	J
Sembrat, K. — d	J
Sembratowa-Opczyńska, Mrs Z. — a	J
Steinitz, H. — a, b, c	J
Stone, L. S. — a, b, c	J
Stroëva, Miss O. G. — a	J
Stroëva, Miss O. G. — c	(5)J
Sangvichien, S. — a	K
Amprino, R. M. — c	L
Doorenmaalen, W. J. van — b	L
Woerdeman, M. W. — a	L
Stroëva, Miss O. G. — a	M

Skeleton

Goss, R. J. — b	J
Polezhayev, L. V. — a	M
Woerdeman, M. W. — a	M

*Muscular system**Alimentary tract*

O'Connor, R. J. — a	M
Wilson, J. W. — a	M

Respiratory organs

Heart, vascular system and blood
Coelomic cavities and endothelia,
lymphatic system and connective
tissue

Urogenital system

Follenius, E. and J. H. Vivien — a I

Endocrine glands

Heckerman, R. O. — b L

VII. METAMORPHOSIS

SUBDIVISION

1 *Theoretical problems and general questions*

2 *General investigations*

a *General subjects*

b *Hormones and metamorphosis*

c *Metamorphosis of part of the organism*

d *Metamorphosis of special organ systems*

(Cf. general subdivision p. 153—155)

CHARACTER OF INVESTIGATION

(5) *Chemical treatment*

1 *Theoretical problems and*
general questions

2 *General investigations*

a *General subjects*

Knight-Jones, E. W. — a	C
Bookhout, C. G. — b	D
Costlow, J. D. — a	D
Gloor, H. J. — a	D
Ito, T. — a, c	D
Pohley, H.-J. — a, b	D
Rockstein, M. — a, b	D
Thompson, T. E. — b	E
Harvey, Mrs E. Browne — c	G
Okazaki, Miss K. — c	G
Brewin, B. I. — a	H
Baxter, E. W. — a	I
Castigli-Pitotti, Mrs M. — b	J
Dent, J. N. — c	J
Jurand, A. — b	J
Kaltenbach, Mrs J. C. — c	J

Leghissa, S. and	
Pasquini, P. — a	(5)J
Niizima, M. — b	J
Stuchly, Z. — a	J
Yanagisawa, T. — a	J

b *Hormones and metamorphosis*

Bodenstein, D. — d	D
Geigy-Heese, R. — a	D
Highnam, K. C. — a	D
Ichikawa, M. and	
Nishiitsutsuji-Uwo, Mrs. J. — a	D
Lüscher, M. — b	D
Rae-Wickham, Mrs C. A. — a	D
Nowakówna, Miss J. — a	V
Radecka, Mrs E. Erdman — a	V
Sembrat, K. — c	V
Wurmbach, H. — a	V
Fraser, R. C. — b	J
Iwasawa, H. — a	J
Kaltenbach, Mrs J. C. — b	J
Kollros, J. J. — b, f	J
Lynn, W. G. — a	J

Saxén, L. O. and Toivonen, S. I. — b	J	<i>Skeleton</i>	
c Metamorphosis of part of the organism		<i>Muscular system</i>	
Löbbecke, E.-A. — a, b	D	Nüesch, H. — b	D
Schoeller, Miss J. — b	D	Takisawa, A. — a	J
d Metamorphosis of special organ systems		<i>Alimentary tract</i>	
<i>Skin</i>		Harder, W. — a	I
Andres, G. — b	J	<i>Respiratory organs</i>	
<i>Nervous system</i>		<i>Heart, vascular system and blood</i>	
Nüesch, H. — c	D	<i>Coelomic cavities and endothelia, lymphatic system and connective tissue</i>	
<i>Special sense organs</i>		Stuchly, Z. — a	J
Steinitz, H. — c	J	<i>Urogenital system</i>	
Takisawa, A. — b	J	Cambar, R. — c	J
Wilt, F. H. — a	J	Lynn, W. G. — b	J
Witschi, E. — e	J	<i>Endocrine glands</i>	
Takisawa, A. — b	M		

NEW TECHNICAL METHODS in Developmental Biology (arranged according to subjects)

This chapter contains data on methods published during the two-year period elapsed between the appearance of the previous and of the present full issue.

CLASSIFICATION OF SUBJECTS

I/II Descriptive and experimental embryology

III Physiology of development

IV Development and genetics

V Development and pathology

VI Regeneration

a microscopy, photography and reconstruction

b histology and cytology

c operation and marking

d culturing (of organisms, organs, tissues and cells)

e physiology

f histochemistry and cytochemistry

g biochemistry

h biophysics

Descriptive and Experimental Embryology

Microscopy, photography and reconstruction

1. The use of plastic in reconstruction from serial sections. U.V. photography of the reconstructions. (*General*)

Boyer, C. C. — *Anat. Rec.*, **125**, 433-442, 1956

2. Measurement of nuclear and cytoplasmic volumes. (*General*)

Dick, D. A. T. — *Nature*, **177**, 236-237, 1956

3. Study of cell division by phase microscopy. (*General*)

Makino, S. & H. Nakahara — *J. Heredity*, **46**, 5, 145-251

4. Phase contrast microscopy of developing eggs. (*Echinoidea*)

Holter, H. & E. Zeuthen — *Pubbl. Staz. Zool. Napoli*, **29**, 285-306, 1957

5. Fluorescence microscopy of germ cells. (*Mammalia*)

Bishop, M. W. H. & J. Smiles — *Nature*, **179**, 307-308, 1957

Histology and cytology

6. A quick cytological method for mounting embryos of some species. Geyer-Duszyńska, I. — *Zoologica Poloniae*, **7**, 1956 (*Diptera*)

7. Microtomie dotterreicher Eier. (*Insecta*)

Krause, G. & J. Krause — *Zool. Jb. (Anat.)*, **75**, 481-550, 1957

8. Intravital staining of parts of the Ammon's formation by injection of dithizon. (*Mammalia*)

Fleischhauer, K. & E. Horstmann — Z. f. Zellforsch., 1957

Operation and marking

9. U.V.-Strahlenstichmethode. (*General*)

Seidel, F. — Zool. Anz., Suppl. 19, 371-380, 1956

10. Insertion of transplants into the mesenchyme beneath the epithelium.

Kido, T. — Sci. Rep. Kanazawa Univ., 5, 1, 1957 (*Turbellaria*)

11. A method for the destruction in situ of larval gonads. (*Insecta*)

Pantelouris, E. M. & D. Poggendorf — Experientia, 11, 38, 1955

12. Use of the Mitchison-Swann elastimeter as an aid in micromanipulation.

Tyler, A. — Biol. Bull., 109, 369-370, 1955 (*Echinodermata*)

13. Infusion of microquantities of chemicals in solution into the embryo and the regenerate. (*Amphibia*)

Singer, M., D. Flinker & R. L. Sidman — J. Exp. Zool., 131, 267-300, 1956

14. Tracing of morphogenetic movements by means of labelled cells. (*Am-*

Sirlin, J. L. — Roux'Archiv, 148, 489-493, 1956 *phibia, Aves*)

15. An improved method of operating on early blastoderms in ovo. (*Aves*)

Grabowski, C. T. — J. Exp. Zool., 133, 301-344, 1956

16. Nouvelle technique de transplantation: la greffe intra-oculaire; application à l'épiphyse. (*Aves*)

May, R. M. & M. S. Thillard — C. R. Acad. Sci., 244, 1553-1555, 1957

17. Isolation of melanocytes free of other cell types; use for grafting (seeding) or tissue culturing. (*Aves*)

Reams, W. M., Jr. — J. Morphol., 99, 3, 513-548, 1956

18. A method for experimental closure of extraembryonic vessels. (*Aves*)

Rychter, Z. & L. Lemež — Čs. morfologie, 4, 142-162, 1956

19. Labelling of early eggs for transplantation. (*Mammalia*)

Edwards, R. G. & J. L. Sirlin — Proc. Sec. World Congr. Fert. Ster., 1957

20. Ionizing radiation as an extirpative tool in experimental embryology. (*Mammalia*)

Hicks, S. P., B. L. Brown & C. J. D'Amato — Am. J. Pathol., 33, 459-481, 1957

21. Labelling of sperm. (*Mammalia*)

Sirlin, J. L. & R. G. Edwards — Exp. Cell Res., 9, 596-599, 1955

22. Operative Entnahme und in vitro Zucht einzelner Keime. (*Mammalia*)

Wrba, H. — Verh. Deutsch. Ges. Pathol., 39 Tgg., 345-349, 1955

Culturing (of organisms, organs, tissues and cells)

23. Methods for obtaining and handling marine eggs and embryos of about 90 species. (*All Classes from Porifera to Teleostei*)

Costello, D. P., M. E. Davidson, A. Eggers, H. M. Fox and C. Henley — Published by Marine Biological Laboratory, Woods Hole, Mass., U.S.A., Nov. or Dec., 1957

24. Confinement of a single larva in a micro-aquarium. (*Marine eggs*)
Dan, K. & K. Okazaki — Biol. Bull., **110**, 29-42, 1956

25. Induction of division and growth synchrony in axenic cultures. (*Tetrahymena pyriformis (Holotricha, Ciliata)*)

Scherbaum, O. & E. Zeuthen — Exp. Cell Res., Suppl. **3**, 312-325, 1955

26. Larval development in the laboratory. (*Balanus eburneus (Cirripedia)*)
Costlow, J. D., Jr. & C. G. Bookhout — Biol. Bull., **112**, 3, 313-324

27. Culture of tissue fragments in fluid culture. (*Vertebrata*)
Moog, F. & M. H. Kirsch — Nature, **175**, 722, 1955

28. In vitro culture of larval tissues. (*Amphibia*)
Niizima, M. — Okaj. Folia Anat. Jap., **28**, 59-69, 1956

29. In vitro cultivation of embryonic spinal ganglia. (*Aves*)
Peterson, E. R. — Am. J. Anat., **96**, 319-356, 1955

30. Technique de culture in vitro de blastoderms entiers. (*Aves*)
Simon, D. — Arch. Anat. Microsc., 1956

See also entries no. 17, 22

Physiology of Development

Microscopy, photography and reconstruction

See entry no. 5

Physiology

31. A method for determination of the average life span of primitive erythrocytes (E I). (*Vertebrata*)

Lemež, L. — Čs. morfologie, **5**, 201-208, 1957

32. Applikation von Steroidhormonen mit Hilfe eines Lösungsvermittlers.
Querner, H. — Biol. Zentr. bl., **75**, 28-51, 1956 (*Pisces*)

33. Direct and indirect calorimetry of the embryo. (*Aves*)
Romijn, C. — Poultry Sci., 1957

34. A micromethod for determination of the circulating blood volume. (*Aves*)
Rychter, Z., M. Kopecký & L. Lemež — Nature, **175**, 1126-1127, 1955

See also entries no. 13, 25

Histochemistry and cytochemistry

35. Differential staining with a mixture of safranin and fast green F.C.F. (qualitative staining of nucleic acids and proteins). (*General*)
Bryan, J. H. D. — *Stain Technol.*, **30**, 153-157, 1955
36. Estimation and localization of antigens by means of autoradiography following the treatment of sections by radio-iodinated antisera. (*General*)
Clayton, R. M. & M. Feldman — *Experientia*, **11**, 1, 29, 1955
37. Histo-serological reaction. (*General*)
Doorenmalen, W. J. van — Thesis, 80 pp., Amsterdam, 1957
38. Modifications of Gomori's techniques for acid and alkaline phosphatase reactions applicable to young stages of development. (*Vertebrata, Mammalia*)
Mulnard, J. — *Arch. de Biol.*, **64**, 525-685, 1955
39. Method for obtaining efficient incorporation of radiosotopes into eggs.
Nakano, E. & A. Monroy — *Experientia*, 1957 (*Echinodermata*)
See also entry no. 8

Biochemistry

40. Determination of protein changes by "salting out" method. (*General*)
Ranzi, S. & P. Citterio — *Exper. Cell Res.*, Suppl. **3**, 287-293, 1955
41. Cell-diffusion analyses of immobilization antigens. (*General*)
Finger, I. — *Biol. Bull.*, **111**, 358-363, 1956
42. Use of I^{131} and filter paper chromatography for the study of development of the thyroid in vitro. (*General*)
Gonzales, F. — *Exp. Cell Res.*, **10**, 181-187, 1956
43. Elimination and correction methods for contaminant in eggs which interferes with the diphenylamine reaction for DNA. (*Amphibia*)
Finamore, F. J. — *Exp. Cell Res.*, **12**, 356-362, 1957
- See also entry no. 13

Biophysics

44. A method for investigating electrical properties of egg cells. (*Echinodermata*)
Tyler, A., A. Monroy, C. Y. Kao & H. Grundfest — *Biol. Bull.*, **111**, 153-177, 1956
45. Röntgen-Teilbestrahlung von Zellplasma. (*Urodela*)
Peters, Th. — *Naturwiss.*, **44**, 9, 1957
- See also entry no. 33

Development and Genetics

Operation and marking

See entries no. 19, 21

Biophysics

46. A method for inducing complete heterospermic androgenesis by heat treatment alone or combined with heavy X-raying of female sex cells. (*Lepidoptera*)

Astaurov, B. L. & V. P. Ostrjakova-Varshaver — *Izvestija Akad. Nauk SSSR, Ser. Biol.*, 2, 154-175, 1957

Development and Pathology

Operation and marking

See entries no. 9, 13, 20

Physiology

See entry no. 13

Biochemistry

See entry no. 13

Biophysics

47. Abnormal embryonic development induced by treatment with ultrasonic waves. (*Insecta*)

Selman, G. G. & S. J. Counce — *J. Embryol. Exp. Morphol.*, 3, 121-141, 1955

See also entry no. 45

Regeneration

Operation and marking

See entries no. 9, 10, 13

Physiology

See entry no. 13

Biochemistry

See entry no. 13

„SUPPLY AND DEMAND” SERVICE

for Laboratory Animals

It was decided henceforth to omit the information concerning *birds* and *mammals*. This decision is due to the fact that an “*International Committee on Laboratory Animals*” has been established, under the sponsorship of Unesco. This Committee will, for the time being, be primarily concerned with the supply of birds and mammals. Informations concerning the programme developed by this Committee may be obtained from its Honorary Executive Secretary, Dr. W. Lane-Petter, Director of the Laboratory Animals Bureau, Medical Research Council Laboratories, Holly Hill, Hampstead, London, N.W. 3, England.

Transactions should be carried out directly between the interested parties. We do not take any responsibilities either for the transactions themselves, or in matters relating to prices, in- and export regulations, animal protection regulations etc.

With each new list all previous lists become invalid.

A. LIST OF SPECIES AVAILABLE

with numbers referring to List B.

Unless otherwise indicated, most items available throughout the year.

GENERAL		Ornithodoros moubata (Argasidae; Tanganyika)	54
Australian spp.	43 ¹⁾	Rhodnius spec. (Reduviidae)	54
Marine animals (Gulf of Naples)	49	Triatoma spec. (Reduviidae)	54
VERMES		Xenopsylla cheopis (Pulicidae)	54
Euplanaria polychroa (cloned)	46	Zaprinus ghesquieri	52
Planaria vitta (cloned)	46	MOLLUSCA	
ARTHROPODA		Campeloma spec.	33
Insecta		Goniobasis spec.	33
Aedes spp.	54	Physa spec.	33
Anopheles spp.	54	Planorbis spec.	33
Bombyx mori	41	Watasenia scintillans (females with ripe eggs, May-July)	42
Culex spp.	54	ECHINODERMATA	
Dictyoptera (various spp.)	43	Lytechinus variegatus (not in June, July, Aug.)	7
Drosophila hydei	52	Mellita quinquesperforata (not in June, July, Aug.)	7
Drosophila melanogaster	52	PISCES	
Drosophila simulans	52	Gasterosteus spec.	33
Ephesia Kühniella (inbred strains, mutants a, va, Rt, rt)	6	Salmo fario (ova)	4
Habrobracon juglandis (= Microbracon hebetor, wild stock no. 33)	26	Umbra limi	33

¹⁾ on special request.

AMPHIBIA			
Urodela			
Ambystoma maculatum	33	Alytes obstetricans	44, 53
Ambystoma mexicanum		Bombina bombina	48 ³)
(young animals)	37 ²)	Bufo spec.	33
Ambystoma mexicanum	45 ⁴), 48 ³)	Bufo bufo	48 ³)
Ambystoma opacum	33	Bufo regularis	2
Ambystoma punctatum		Bufo valliceps (Apr.-Aug.)	14
(Apr.-May)	29 ⁵)	Bufo vulgaris formosus	40 ⁶)
Ambystoma tigrinum	33	Discoglossus pictus	
Hynobius nebulosus	40 ⁶)	(March-May)	50 ⁸)
Hynobius retardatus		Hyla arborea	48 ³)
(March-May)	39	Hyla a. arborea	44
Molge boscai	53	Hyla a. meridionalis	44
Molge marmorata	53	Polypedates buergeri	
Necturus spec.	33	(Apr.-Sept.)	38
Pleurodeles Waltlii		Rana catesbeiana	9, 33, 40 ⁶)
(young animals)	37 ²)	Rana clamitans	9, 33
Pleurodeles Waltlii	47 ³)	Rana dalmatina	48 ³)
Salamandra maculosa	47 ³), 53	Rana esculenta	48 ³)
Salamandra salamandra	44	Rana japonica (Apr.-Sept.)	38
Salamandrella keyserlingii		Rana japonica	40 ⁶)
(Apr.-June)	39	Rana nigromaculata	
Triturus alpestris	44	(Apr.-Sept.)	38
Triturus alpestris (Apr.-June)	45 ⁴)	Rana nigromaculata	40 ⁶)
Triturus cristatus		Rana pipiens	9, 33
(young animals)	37 ²)	Rana rugosa (Apr.-Sept.)	38
Triturus cristatus	44	Rana sylvatica	33
Triturus cristatus		Xenopus laevis	4, 47
(eggs Dec.-May)	48 ³)		
Triturus cristatus carnifex	44, 51	REPTILIA	
Triturus helveticus	44	Chelonia	
Triturus pyrrhogaster		Chelonia (all current spp.)	33
(Apr.-Sept.)	38	Emys orbicularis	48 ³)
Triturus pyrrhogaster	40 ⁶)		
Triturus taeniatus (Apr.-June)	45 ⁴)	Lacertilia	
Triturus viridescens	33	Algiroides spec.	53
Triturus vulgaris	44	Chalcides tridactylus	53
Triturus vulgaris		Lacerta lepida	44
(eggs Dec.-May)	48 ³)	Lacerta muralis	48 ³), 53
Triturus vulgaris meridionalis	51	Lacerta ocellata	53
		Lacerta schreiberi	53
Anura		Lacerta secula	44
Anura (various spp.)	55 ⁷)	Lacerta viridis	44, 48 ³)
Alytes cisternasi	44	Psammodromus spec.	53
		Sceloporus spec.	33

²) in exchange for Ambystoma tigrinum, A. punctatum, Triturus pyrrhogaster.

³) in exchange for Xenopus laevis, Anolis carolinensis.

⁴) in exchange for Triturus cristatus carnifex, Pleurodeles Waltlii, Xenopus laevis.

⁵) for sale, or in exchange for A. tigrinum or other spp.

⁶) in exchange for Ambystoma tigrinum, A. punctatum.

⁷) in exchange for other Amphibia.

⁸) in exchange for Triturus taeniatus, T. alpestris, T. palmatus.

Ophidia

Coelopeltis monspessulana	53	Natrix tessellatus	44
Coluber scalaris	53	Tropidonotus natrix	53
Coronella austriaca	44	Vipera spec.	53
Coronella girondica	53	Vipera ammodytes	44
Natrix maura	44	Vipera aspic	44
Natrix natrix	44, 48 ³⁾	Vipera berus	44

³⁾ in exchange for *Xenopus laevis*, *Anolis carolinensis*.

B. LIST OF NAMES AND ADDRESSES

(geographical order)

A F R I C A

Br. East Africa

1.* MAHOMED HESEIN & CO., P.O. Box 506, ZANZIBAR

Egypt

2. DEPT OF ANATOMY, Faculty of Medecine, ALEXANDRIA

South-Africa

3.* EDUCA PRODUCTS (Pty.) Ltd., P.O. Box 3538, CAPE TOWN

4.* INLAND FISHERIES DIVISION, Dept of Nature Conservation,
Private Bag, STELLENBOSCH

N. A M E R I C A

United States

5.* J. V. MASSEY, Jr., Fairfield Laboratories, Main Street, BRIDGE-
PORT, Conn.

6. SHANKLIN BIOL. LAB., Wesleyan University, MIDDLETOWN,
Conn.

7. DEPT OF BIOLOGY, Univ. of Florida, GAINESVILLE, Florida

8.* TROPICAL HOBBYLAND, 1525 N.-W. 27th Ave, MIAMI 35, Florida

9. DR F. J. FINAMORE, Southern Illinois University, CARBONDALE,
Ill.

10.* UNITED SCIENTIFIC CO., 300 North Jefferson Street, CHICAGO 6,
Ill.

11.* W. M. WELCH SCIENTIFIC CO., 1515 Sedgwick Street, CHICAGO
10, Ill.

12.* GENERAL BIOLOGICAL SUPPLY HOUSE, 761-763 E., 69th Place,
CHICAGO 37, Ill.

13.* QUIVIRA SPECIALTIES CO., 4204 W. 21st Street, TOPEKA, Kan.

14. DEPT OF ZOOLOGY, Newcomb College of Tulane University, NEW
ORLEANS, La.

* Biological Supply Houses, Zoological Collectors, etc.

- 15.* CHASE WILD ANIMAL FARM, Lawson Road, EGYPT, Mass.
- 16.* SUPPLY DEPT, Marine Biol. Lab., WOODS HOLE, Mass.
- 17.* TRANS-MISSISSIPPI BIOLOGICAL SUPPLY, 892 West County Road B., ST PAUL, Minn.
- 18.* CAROLINA BIOL. SUPPLY CO., ELON COLLEGE, N.C.
- 19.* J. C. NICHOLLS, Jr., Zoological Collector, MURPHY, N.C.
- 20.* CHAMPLAIN BIOLOGICAL SERVICE, GLEN GARDNER, N.J.
- 21.* E. R. NEUENFELDT, P.O. Box 29, CHAMPLAIN, N.Y.
- 22.* STANDARD SCIENTIFIC SUPPLY CO., 34-38 West 4th Street, NEW YORK CITY, N.Y.
- 23.* WARDS NATURAL SCIENCE ESTABL., 3000 Ridge Road East, ROCHESTER, N.Y.
- 24.* MRS. R. C. CASSELBERRY, 55 Edgemont Road, SCARSDALE, N.Y.
- 25.* PORTLAND BIOLOGICAL SUPPLY CO., P.O. Box 6671 Lents Station, PORTLAND 66, Ore.
26. BIOLOGY DEPT, Susquehanna University, SELINGSGROVE, Pa.
- 27.* SOUTHWESTERN BIOLOGICAL SUPPLY CO., P.O. Box 4084, St. A., DALLAS, Tex.
- 28.* EARLE JARVIS, Zoological Collector, ALBURG, Vt.
29. COLLEGE OF MEDICINE, University of Vermont, BURLINGTON, Vt.
- 30.* VIRGINIA BIOLOGICAL SUPPLY, CHARLOTTESVILLE, Va.
- 31.* NORTHWESTERN BIOL. SUPPLY CO., Route 3, ANACORTES, Wash.
- 32.* COLLEGE BIOLOGICAL SUPPLY CO., 9230 Woodlawn Ave, SEATTLE, Wash.
- 33.* THE LEMBERGER CO., P.O. Box 482, OSHKOSH, Wis.
- 34.* E. G. STEINHILBER & CO., OSHKOSH, Wis.

ASIA

India

- 35.* VITA LIMITED, 31 Ropewalk Street, Fort, BOMBAY
- 36.* BIOLOGICAL SUPPLY CONCERN, 14 Hare Street, CALCUTTA 1

Israël

37. DEPT OF ZOOLOGY, Hebrew University, JERUSALEM

Japan

38. BIOLOGICAL INSTITUTE, Fac. of Sci., Niigata University, NIIGATA
39. DEPT OF ZOOLOGY, Fac. of Sci., Hokkaido University, SAPPORO
40. DEPT OF ANATOMY, Tokyo Med. and Dent. University, Yushima 3, Hongo, TOKYO

41. SERICULTURAL EXPERIMENT STATION, Koenji, Suginami-ku, TOKYO
42. BIOLOGICAL INSTITUTE, Fac. of Liberal Arts, Toyama University, Hasumachi 22, TOYAMA

A U S T R A L I A

Australia

43. DEPT OF ZOOLOGY, New England University, ARMIDALE, N.S.W.

E U R O P E

Belgium

- 44.* REPTILAMPHIBIA (Felix Vandevelde), Remerstraat, BAAL, Brabant

Czechoslovakia

45. ZOOLOGICAL INSTITUTE, Charles University, Viničná 7, PRAHA II

Denmark

46. INSTITUTE F. ALM. ZOOL., Universitetspark 3, COPENHAGEN Ø

Germany

47. ZOOLOGISCHES INSTITUT der Universität Köln, Kerpenerstr. 13, KÖLN-LINDENTHAL

Hungary

48. DEPT OF ANATOMY, University Medical School, Dischka u. 5, PÉCS

Italy

- 49.* STAZIONE ZOOLOGICA, Villa Comunale, NAPOLI (101)
50. ISTITUTO DI ZOOLOGIA, Via Archirafi 18, PALERMO
51. ISTITUTO DI ZOOLOGIA E ANAT. COMP., Università di Pisa, Via A. Volta 4, PISA

Netherlands

52. GENETISCH INSTITUUT der Rijksuniversiteit, 5e Binnenvestgracht 8, LEIDEN

Spain

- 53.* HERMANN GRÜN, Linares de Riofrio, SALAMANCA

Switzerland

54. SCHWEIZ. TROPENINSTITUT, Socinstrasse 57, BASEL

United Kingdom

55. MEDICAL SCHOOL, Charing Cross Hospital, Chandos Place, LONDON W.C. 2.

Communications from the Hubrecht Laboratory

I The Laboratory

In the year 1958 (March 15th—September 15th) the third international team work on embryology will be held at the Hubrecht Laboratory under the joint direction of Prof. Dr Chr. P. Raven of the University of Utrecht, and of Dr P. D. Nieuwkoop, Director of the Laboratory.

The topic for the third team will be: "*A morphological and physiological analysis of regulative and non-regulative processes in the development of "mosaic" eggs of several terrestrial and freshwater invertebrates*".

As far as is known at the present moment, the following scientists will participate in this team (alphabetical order):

Miss A. Andrew, M.Sc., Johannesburg, South Africa

Dr J. C. George, Baroda, India

Dr C. Jura, Kraków, Poland

Dr J. B. Morrill, Tallahassee, Flor., U.S.A.

Dr I. Nakamura, Tokyo, Japan

Mr E. Suminsky, M.V.Sc., Warszawa, Poland

Dr G. Székely, Pécs, Hungary

Dr S. Seo, Fukuoka, Japan

II The Central Embryological Library (C.E.L.)

A *Extension of reprint collection*

Recently a programme of collaboration has been established with the Excerpta Medica Foundation, Amsterdam, which will enable us to have regular access to the most recent literature received by this Foundation. This means, firstly, that the reprint collection will be more complete, and secondly, that in many cases it will be possible to acquire reprints at a much earlier date than has been the case until now.

B *Services rendered by the C.E.L.; conditions for borrowing*

1. Every embryologist can ask for information about literature of certain authors, for surveys of literature on certain subjects (according to the classification-system of the G.E.I.S.), for surveys of newly published literature, etc.
2. Every embryologist can borrow reprints which are not available in his own country. Books and Normal tables are usually not lent out, volumes of periodicals are only lent out to investigators in the Netherlands.

Conditions:

- a. Reprints may be borrowed for 3 months at the utmost (for the Netherlands 1 month), time for shipment not included.
- b. The receipt added to the consignment must be returned by return of post, after having been controlled and signed.
- c. In case of high forwarding charges these have to be partly carried by the applicant.
3. Every embryologist can personally consult the C.E.L. at all times.
4. The C.E.L. will be at the disposal of every embryologist working at the Hubrecht Laboratory.

III The Central Embryological Collection of slides and material

A *Housing of the Collection*

The entire Collection has been moved to a large underground strong-room in the new administration building of the University of Utrecht (formerly a Bank building). This means, firstly, that the Collection is now housed as safely as possible, and secondly, that the space formerly occupied by it in the Hubrecht Laboratory can now be used for other urgent purposes.

B *Conditions for borrowing*

Conditions:

1. Slides, material in paraffin and/or material in alcohol can only be borrowed for one year, after which it has to be returned automatically if no special request for extension of the loan has been made by the investigator and has been approved by the staff of the Hubrecht Laboratory.
2. Material in alcohol or paraffin has to be returned as such or in the form of well prepared slides which have been sectioned, stained and embedded properly, clearly labeled (name of species, thickness and direction of sectioning, method of staining, etc.) and numbered according to given indications.
3. Costs of transport may be charged if these exceed reasonable limits.
4. Two copies of those publications dealing with material from the Central Embryological Collection should be sent to the Central Embryological Library of the Hubrecht Laboratory.
5. If material of the Central Embryological Collection has been used in investigations, it is respectfully requested that this be indicated in the publications concerned.

Restrictions:

6. Very rare or regularly consulted material can only be studied at the Hubrecht Laboratory.
7. Material of great historical value cannot be lent out.
8. If material has not been treated properly or (after special request) has not been returned in time by an investigator, material will no longer be lent out to the person in question.

IV Photographic Reproduction Service

The Hubrecht Laboratory makes photostats on request of papers present in the Central Embryological Library or borrowed from elsewhere. The negatives will remain at the Laboratory.

Price list (both text and plates):

Positive microfilm (24 × 36 mm): p.p. f 0.25 = \$ 0.07

Enlarged prints

7 × 10 cm (box camera size): p.p. f 0.40 = \$ 0.10

13 × 18 cm (average page size): p.p. f 0.50 = \$ 0.13

18 × 24 cm (large page size): p.p. f 0.65 = \$ 0.17

Communications of the „Institut International d'Embryologie” (Embryological Section of the I.U.B.S)

The I.I.E. has to announce with great regret the loss of its Honorary President, Prof. Dr. J. Boeke, who died in September, 1956, and of its active fellows Prof. Dr. K. Henke, who died in September, 1956, and Prof. Dr. G. B. Wislocki, who died in October, 1956.

The I.I.E. held an extra General Assembly on September 4th, 1957 in St. Andrews, Scotland, at which meeting the following resolutions were passed:

a) The meetings of the Sections of Cell Biology and Embryology of the I.U.B.S. will be coordinated in time and space. The meetings will be held in reasonable proximity, but not in the same place and without overlapping in time or subject. A coordination of subjects will also be aimed at with the Genetical Section.

b) The cooperation between the I.I.E. and the Hubrecht Laboratory has been extensively discussed and the following statements have been made:

1) The administration of the I.I.E. will remain at the Hubrecht Laboratory.

2) The I.I.E. accepts an advisory rôle with respect to the international administrative (General Embryological Information Service etc.) and scientific activities (Normal Table, international team work, etc.) of the Hubrecht Laboratory. The latter is however subsidized and directed by the Royal Dutch Academy of Sciences.

3) In order to make the advisory rôle of the I.I.E. as effective as possible, at least once a year an advisory committee, consisting of the president and secretary of the I.I.E. together with two other fellows, will visit the Hubrecht Laboratory in order to discuss both forms of international activity.

4) The General Assembly expressed its high appreciation as to the international team work project as an opportunity for young scientists to be trained in the methods of experimental embryology. It further declared that it is of great interest for the improvement of developmental biology that the Hubrecht Laboratory is ready at every period to receive young and more advanced workers in the field of embryology and to supply them with living embryological material of various native and foreign animals.

c) The president Prof. Dr. M. W. Woerdeman and the secretary Prof. Dr. Chr. P. Raven had expressed the wish to retire from the Board. Prof. Dr. A. M. Dalcq, replacing the president at this meeting, thanked both retiring functionaries for their important contributions to the development of the I.I.E. After election of new functionaries the composition of the Board for the next period is as follows:

President, Prof. Dr. A. M. Dalcq (member of the Board since 1948)

Secretary-treasurer, Prof. Dr. F. E. Lehmann (since 1949)

Vice President, Prof. Dr. P. A. Weiss (since 1949)

Member, Dr. H. B. Fell (since 1952)

.. Prof. Dr. S. Hörstadius (since 1956)

.. Prof. Dr. Et. C. Wolff (since 1957)

.. Prof. Dr. S. Ranzi (since 1957)

Adjunct Secretary-treasurer, Dr. P. D. Nieuwkoop.

d) The invitation by Prof. Dr. S. Ranzi to hold the next General Assembly in Italy was accepted with thanks. The General Assembly will be held in 1960, preferably from September 6th or 7th in Milano or Pallanza, and will be combined with an Embryological Congress.

Election of fellows and members

The fellows W. Buño, F. de Castro and Cl. Estable have been regarded as having resigned from fellowship. In order to fill up the open places in the college of fellows 8 persons have been elected as new fellows at a separate meeting.

Thus the college of fellows has the following composition:

(list drawn up Dec. 1st, 1957, in alphabetical order and with year of election)
(for full addresses see Alphabetical List in this periodical)

- | | |
|---|--|
| M. Abercrombie, London, Eng.
(1956) | R. M. Eakin, Berkeley, Calif.
(1948) |
| H. B. Adelman, Ithaca, N.Y.
(1948) | G. Fankhauser, Princeton, N.J.
(1948) |
| P. A. Ancel, Paris (Emer.)
(prior to 1933) | E. Fauré Fremiet, Paris (Emer.)
(1933) |
| B. L. Astaurov, Moscow (1956) | Miss H. B. Fell, Cambridge, Eng.
(1936) |
| M. Avel, Bordeaux (1948) | T. Thomson Flynn, Jamaica (Emer.)
(1938) |
| B. I. Balinsky, Johannesburg (1948) | L. Gallien, Paris (1956) |
| F. Baltzer, Bern (Emer.) (1948) | P. Gérard, Bruxelles (Emer.)
(1933) |
| L. G. Barth, New York, N.Y.
(1948) | A. Giroud, Paris (1948) |
| Sir G. R. de Beer, London, Eng.
(1938) | H. Grüneberg, London, Eng. (1956) |
| H. Bluntschli, Bern (Emer.)
(prior to 1933) | E. Hadorn, Zürich (1948) |
| J. D. Boyd, Cambridge, Eng. (1957) | V. Hamburger, St. Louis, Mo (1948) |
| J. Brachet, Bruxelles (1948) | W. J. Hamilton, London, Eng.
(1948) |
| F. W. R. Brambell, Bangor,
N. Wales (1956) | R. G. Harrison, New Haven, Conn.
(Emer.) (1912) |
| P. L. Brien, Bruxelles (1948) | Mrs E. B. Harvey, Princeton, N. J.
(Emer.) (1948) |
| A. J. P. van den Broek, Utrecht
(Emer.) (1936) | Ch. H. Heuser, Augusta, Ga.
(Emer.) (1948) |
| H. V. Brøndsted, København
(1948) | L. Hoadley, Cambridge, Mass.
(1948) |
| R. K. Burns, Baltimore, Md (1952) | J. K. F. Holtfreter, Rochester, N.Y.
(1936) |
| E. G. Butler, Princeton, N.J. (1956) | S. Hörstadius, Uppsala (1948) |
| E. van Campenhout, Louvain (1948) | R. R. Humphrey, Buffalo, N.Y.
(1949) |
| Chuang Hsiao-Hui, Shanghai
(1948) | A. Kühn, Tübingen (Emer.) (1957) |
| G. W. Corner, Baltimore, Md
(1952) | W. Landauer, Storrs, Conn. (1957) |
| D. P. Costello, Chapel Hill, N.C.
(1948) | F. E. Lehmann, Bern (1948) |
| G. Cotronei, Roma (Emer.) (1948) | G. L. Levi, Torino (Emer.)
(prior to 1933) |
| A. M. Dalcq, Bruxelles (1933) | |
| N. I. Dragomirov, Moscow (1948) | |

- W. H. Lewis, Philadelphia, Pa
(Emer.) (prior to 1933)
- P. E. Lindahl, Uppsala (1948)
- G. V. Lopashov, Moscow (1948)
- O. Mangold, Heiligenberg
(prior to 1933)
- A. Monroy, Palermo (1957)
- P. D. F. Murray, Sydney (1948)
- J. Needham, Cambridge, Eng.
(1948)
- J. S. Nicholas, New Haven, Conn.
(1948)
- P. D. Nieuwkoop, Utrecht (1957)
- Y. K. Okada, Tokyo (1952)
- S. Pai, Shanghai (1948)
- P. Pasquini, Bologna (1957)
- J. J. Pasteels, Bruxelles (1938)
- L. V. Polezhayev, Moscow (1948)
- S. Ranzi, Milano (1948)
- Chr. P. Raven, Utrecht (1941)
- G. Reverberi, Palermo (1948)
- J. A. M. Runnström, Stockholm
(1948)
- A. M. Schechtman, Los Angeles,
Calif. (1948)
- D. Starck, Frankfurt a/M. (1952)
- A. Stefanelli, Roma (1952)
- L. S. Stone, New Haven, Conn.
(1948)
- S. I. Toivonen, Helsinki (1948)
- G. Töndury, Zürich (1948)
- T. C. Tung, Tsingtao (1948)
- V. C. Twitty, Stanford, Calif.
(1948)
- A. Tyler, Pasadena, Calif. (1948)
- L. von Ubisch, Paradis (Emer.)
(1948)
- C. H. Waddington, Edinburgh
(1948)
- A. Weber, Genève (Emer.) (1933)
- P. A. Weiss, New York, N.Y.
(1948)
- V. B. Wigglesworth, Cambridge,
Eng. (1957)
- B. H. Willier, Baltimore, Md (1948)
- E. Witschi, Iowa City, Iowa (1948)
- M. W. Woerdeman, Amsterdam
(prior to 1933)
- Et. C. Wolff, Paris (1948)
- T. Yamada, Nagoya (1957)
- C. L. Yntema, Syracuse, N.Y.
(1948)

At the General Assembly 54 new members have been elected. At present acceptance of their nomination has not yet been received from: G. Andres (Tübingen), W. E. Berg (Berkeley, Calif.), C. Y. Chang (Iowa City, Iowa), Mrs J. C. Dan (Tokyo), K. Dan (Tokyo), J. R. Gregg (New York), M. Hasëk (Prague), I. Jit (Amritsar), I. Kawakami (Fukuoka), H. E. Lehman (Chapel Hill, N.C.), Miss B. Mintz (Chicago, Ill.), A. Moscona (Jerusalem), I. Motomura (Sendai), O. Nakamura (Osaka), E. Nakano (Nagoya), K. Okada (Tokushima), E. C. Sensenig (Birmingham, Ala), H. Sugino (Osaka), M. Sugiyama (Toba), G. Vandebroek (Louvain), A. H. Whitely (Seattle, Wash.)

The following members have joined the I.I.E.:

- (list drawn up Dec. 1st, 1957, in alphabetical order and with year of election)
(for full addresses see Alphabetical List in this periodical)
- R. D. Allen, Princeton, N.J. (1957)
- C. R. Austin, London, Eng. (1957)
- R. A. Beatty, Edinburgh (1956)
- M. Benazzi, Pisa (1956)
- H. Bergquist, Göteborg (1957)
- Miss J. H. Bijtel, Groningen (1956)
- D. Bodenstein, Maryland, Md
(1956)
- E. J. Boell, New Haven, Conn.
(1957)
- E. Borghese, Pavia (1956)
- B. G. Böving, Baltimore, Md.
(1957)
- R. W. Briggs, Philadelphia, Pa
(1956)
- R. Cambar, Bordeaux (1957)
- G. ten Cate, Amsterdam (1956)
- Mrs M. Cigada, Milano (1957)
- J. Clavert, Strassbourg (1957)
- A. C. Clement, Atlanta, Ga (1957)
- A. L. Colwin, New York, N.Y.
(1956)

- H. F. C. Damas, Liège (1957)
 U. D'Ancona, Padova (1956)
 Mrs T. A. Dettlaff, Moscow (1956)
 Miss E. M. Deuchar, London, Eng. (1957)
 Ch. Devillers, Paris (1957)
 J. D. Ebert, Baltimore, Md (1956)
 J. C. Fautrez, Gent (1957)
 M. Fischberg, Oxford, Eng. (1957)
 L. B. Flexner, Philadelphia, Pa (1956)
 Ch. L. Foote, Carbondale, Ill. (1957)
 J. Gallera, Genève (1957)
 C. Grobstein, Bethesda, Md (1956)
 T. Gustafson, Stockholm (1956)
 H. L. Hamilton, Ames, Iowa (1956)
 H. Holter, København (1957)
 D. Hooker, New Haven, Conn. (1956)
 J. M. T. Hultin, Stockholm (1956)
 Miss T. Humphrey, Pittsburgh, Pa (1956)
 A. D. Jost, Paris (1956)
 N. E. Kemp, Ann Arbor, Mich. (1957)
 J. J. Kollros, Iowa City, Iowa (1956)
 G. Krause, Tübingen (1956)
 Miss T. K. Kuusi, Helsinki (1956)
 J. Langman, Montreal (1956)
 V. Leone, Milano (1957)
 Mrs R. Levi-Montalcini, St. Louis, Mo (1956)
 H. Lutz, Clermont Ferrand (1957)
 C. L. Markert, Baltimore, Md (1957)
 C. B. Metz, Tallahassee, Fla (1956)
 A. Minganti, Palermo (1956)
 Miss F. Moog, St. Louis, Mo (1956)
 J. A. Moore, New York, N.Y. (1957)
 H. W. Mossman, Madison, Wis. (1956)
 J. Mulnard, Bruxelles (1957)
 D. R. Newth, London, Eng. (1957)
 M. C. Niu, New York, N.Y. (1956)
 Miss J. M. Oppenheimer, Bryn Mawr, Pa (1956)
 F. Orts Llorca, Madrid (1956)
 T. Perri, Roma (1956)
 L. Raunich, Ferrara (1956)
 Miss M. E. Rawles, Baltimore, Md (1956)
 R. W. Reyer, Morgantown, W.Va (1956)
 S. M. Rose, Urbana, Ill. (1956)
 Miss D. Rudnick, New Haven, Conn. (1956)
 R. Rugh, New York, N.Y. (1956)
 T. Sato, Nagoya (1957)
 J. W. Saunders, Milwaukee, Wis. (1956)
 O. E. Schotté, Amherst, Mass. (1956)
 B. Schreiber, Parma (1956)
 S. J. Segal, New York, N.Y. (1957)
 A. Spirito, Perugia (1956)
 N. T. Spratt Jr., Minneapolis, Minn. (1956)
 H. Takaya, Kobe (1957)
 A. C. Taylor, New York, N.Y. (1957)
 H. A. L. Trampusch, Amsterdam (1956)
 H. Tuchman-Duplessis, Paris (1956)
 E. Urbani, Roma (1956)
 E. Vannini, Modena (1956)
 A. J. Waterman, Williamstown, Mass. (1956)
 R. L. Watterson, Evanston, Ill. (1956)
 C. E. Wilde, Philadelphia, Pa (1957)
 W. A. Wimsatt, Ithaca, N.Y. (1956)
 C. von Woellwarth, Heiligenberg (1956)
 E. Zeuthen, København (1957)
 A. Zimmerman, Chicago, Ill. (1956)
 E. Zwilling, Storrs, Conn. (1956)

It seems desirable to give some information as to the procedure of the election of fellows and members. Proposal of candidates for fellowship can only be made by fellows. New fellows are elected by the college of fellows among persons of outstanding merit in the field of morphogenesis with a $\frac{2}{3}$ majority

of votes of the present fellows and subsequent ratification by all fellows. The number of fellows is limited to 75.

Candidates for membership are usually recommended to the Board by two fellows. The fellows should have previously convinced themselves that their candidates like to join the I.I.E. Candidates for membership can however just as well come forward directly or can be suggested by one of the members of the I.I.E. In that case the Board should however be requested to ask for recommendation among the fellows before or at the next General Assembly. After subsequent approval of the Board candidates for membership are elected by the General Assembly by majority of votes.

In order to maintain certain standards it has been decided at the General Assembly in Providence in 1956 that candidates for membership should have been active in the field of morphogenesis for at least 10 years or, in case of a shorter period, should have made important contributions in this field.

The Adjunct Secretary-treasurer, P. D. NIEUWKOOP

Announcements of recently published books on development and related subjects

It has been decided to give these announcements a simpler form (cf. Introduction). Since they consequently no longer express personal opinions, they will henceforth bear no signature.

Group A (books for instruction):

- BARBER, A. N., 1955 — "Embryology of the Human Eye"
CHÈVREMONT, M., 1957 — "Notions de Cytologie et Histologie"
GIROUD, A. & LELIÈVRE, A., 1957 — "Éléments d'embryologie" (4th revised edition)
KOPSCH, Fr. (revised by KUESE, K. K.), 1957 — "Nomina Anatomica, Vergleichende Uebersicht der Basler, Jenaer und Pariser Nomenklatur" (5th edition)
McEWEN, R. S., 1957 — "Vertebrate Embryology" (4th edition)
SACHWATKIN, A. A., 1956 — "Vergleichende Embryologie der niederen Wirbellosen" (translated from the Russian edition, Moscow, 1949)
SIRKS, M. J., 1956 — "General Genetics" (translated from the 5th Dutch edition)
VERNE, J. (formerly Branca, A. & Verne, J.), 1956 — "Précis d'histologie" (4th edition)

Group B (books for investigators):

- ABELOOS, M., 1956 — "Les métamorphoses"
BEATTY, R. A., 1957 — "Parthenogenesis and polyploidy in mammalian development"
CONGRESS REPORT, 1955 — "Le macromolecole dei viventi"
FLEXNER, L. B. & VILLEE, C. A. (editors), 1954-1956 — "Gestation"
HARTMANN, M., 1956 — "Die Sexualität" (2nd revised edition)
HARVEY, Ethel Browne, 1956 — "The American Arbacia and other Sea Urchins"
KÜSTER, E., 1956 — "Experimentelle Zellforschung, Hinweise auf ihre wichtigsten Aufgaben" (3rd edition)
SNELL, G. D. (editor), 1956 — "Biology of the laboratory mouse"
SPECTOR, W. S. (editor), 1956 — "Handbook of Biological Data"
TYLER, A., von BORSTEL, R. C. & METZ, C. B. (editors), 1957 — "The beginnings of embryonic development"
WADDINGTON, C. H., 1957 — "The strategy of the genes"
WARDLAW, C. W., 1955 — "Embryogenesis in plants"
WINDLE, W. F. (editor), 1957 — "New Research Techniques of Neuroanatomy"

"EMBRYOLOGY OF THE HUMAN EYE"

1955

by Aeleta N. Barber
236 pp. with 193 figs

The C.V. Mosby Co.
St Louis

This manual was designed primarily for students and practitioners of ophthalmology. In order to keep the book within limits, the comparative embryology of the eye as well as theoretical considerations have been omitted. There is no bibliography, and no reference to literature is made in the text. An effort has been made to emphasize the concomitant sequence and significance of the developmental events rather than to demarcate developmental stages sharply. Due attention is also given to abnormal development of the eye.

The material is arranged in three sections, viz. Embryogenesis, Organogenesis and Differentiation, each followed by a short summary. The book is concluded by what may be called a "normal table", in which the development of the individual structures is briefly indicated in relation to the crown-rump length of the embryo for successive 1—2 month periods of development.

The book is illustrated with numerous beautiful photomicrographs and drawings, which are for the greater part original. Typography and appearance of the book are of a very high level.

"NOTIONS DE CYTOLOGIE ET HISTOLOGIE"

1957

by M. Chèvremont
994 pp. with 636 figs

Editions Desoer
Liège

The basis for the present text-book was formed by the author's lecture-notes used in his instruction to medical and zoological students. It is meant for both biologists and medical scientists.

More space than usual has been allotted to cytology, because of the recent rapid extension of this field as a result of the development of several new techniques. The book is concerned mainly with higher vertebrate material. Embryological information is used occasionally rather than systematically. Much attention is paid to the functional aspects of cells and tissues.

The introductory chapter contains short surveys of the main technical methods, classical as well as modern, whereas the first chapter of the cytology section gives a comprehensive survey of cyto- and histochemical methods in use to-day, comprising 69 pages. Several of the chapters are followed by short lists of the most important recent literature.

The numerous illustrations are beautifully reproduced. Particularly the cytology section is characterized by many striking photomicrographs, often grouped in series showing dynamic changes of cell-constituents.

The book is well printed, but too large for easy use. The binding seems rather weak for a book of this size and weight.

"ELEMENTS D'EMBRYOLOGIE"

(4th revised edition)

1957

by A. Giroud and A. Lelièvre
335 pp. with 227 figs

Librairie E. le François
Paris

The present concise manual of embryology has been written especially for

the use of medical students (both authors lecture at the Medical Faculty of Paris). It follows that the book deals mainly with human development, and that only essential points from comparative embryology are used where necessary for better understanding.

The text has intentionally been kept as simple as possible, while many good diagrammatic and semi-diagrammatic drawings elucidate elementary relationships and processes. The fact that the book is meant exclusively for purposes of instruction is clearly reflected in the absence of any literature references and of an alphabetical index. A very useful feature for medical students is the inclusion of numerous data on developmental abnormalities, printed in different type, which greatly facilitates their localization.

“NOMINA ANATOMICA,

Vergleichende Uebersicht der Basler, Jenaer und Pariser Nomenklatur”

5th edition, 1957

by Fr. Kopsch

(revised by K. K. Kuese)

155 pp.

Georg Thieme Verlag, Stuttgart

Price: D.M. 6.40

Into this new edition of Kopsch' comparative list of anatomical names have been incorporated the names adopted at the 6th International Congress of Anatomy, held in Paris in 1955.

“VERTEBRATE EMBRYOLOGY”

4th edition, 1957

by R. S. McEwen

701 pp. with 343 figs

Henry Holt and Co., Inc.

New York

Price: \$ 6.50

The first edition of this book appeared in 1923, the third edition in 1949. It was written primarily as an introductory text for general Zoology students.

Since its first appearance the book has not been essentially modified. It is primarily descriptive, but also gives a certain amount of experimental results, including some of the most recent data. These serve to stimulate the student's interest, and to elucidate firmly established principles.

The basis of the book is formed by moderately complete accounts of the development of the frog and the chick. These are supplemented by chapters presenting brief comparisons, in the first place with mammalian development (pig), but also with other significant vertebrate groups (Teleosts and Gymnophiona). The book is opened by a chapter on germ cells, meiosis, and general features of fertilization and early development, followed by a description of the early development of Amphioxus.

The lists of literature references contain the most important older and recent literature, and thus point the way for further study. The illustrations are numerous, and particularly the line drawings are generally good. There is an extensive subject index. The book is well-printed, well-bound and of handy size.

"VERGLEICHENDE EMBRYOLOGIE DER NIEDEREN
WIRBELLOSEN"

1956

by A. A. Sachwatkin
(translated from the Russian edition,
Moscow, 1949)
401 pp. with 125 figs

V.E.B. Deutscher Verlag
der Wissenschaften, Berlin
Price: D.M. 29.20

According to the introduction, this book is meant as a contribution to "evolutionary embryology", in other words to the problem of the historical origin of multicellularity and ontogenesis in Metazoa. It is at the same time meant to be a contribution to a revival of the "materialistic tradition of classical Russian embryology", which is said to be founded on the work of Metschnikow. In this sense, according to the author, the book opposes the "disproportionately stressed and unjustified development of the methodologically inadequate discipline of developmental mechanics, which has in practise banished from Embryology all progressive trends".

It follows that the character of the book is highly theoretical. As a consequence of its theoretical starting-point, it deals mainly with the unicellular and the "lower" multicellular organisms, so that among the embryonic processes discussed the stress comes to lie on cleavage, segregation of sex cells and primary metamorphosis (including gastrulation).

The bibliography (composed by the editors) is not very extensive, but makes mention of many papers and books from outside Eastern Europe. The illustrations, all line-drawings, are well executed without exception.

"GENERAL GENETICS"

1956

by M. J. Sirks
628 pp. with 238 figs and 5 pls
(translated from the 5th Dutch edition)

Martinus Nijhoff, The Hague
Price: H.fl. 35.—

This book is the revised and augmented English translation of a Dutch book, the first edition of which appeared in 1922, and the latest in 1951.

The book tries to establish an equilibrium between genetics as it was built up before 1940, and genetics as it has developed since. Therefore, considerable attention is devoted to the earlier work in this field of science, and this work is time and again used as a basis for the discussion of more recent work. In connection with this feature, in the extensive bibliography the older literature is particularly well represented.

This general trend of the book makes it seem particularly well suited as a text book for students and teachers, and so do also the numerous and very well reproduced illustrations, and the didactically clear style of writing. The typography and appearance of the book are excellent.

"PRECIS D'HISTOLOGIE"

4th edition, 1956

by J. Verne
(formerly A. Branca & J. Verne)
690 pp. with 408 figs

Masson et Cie., Paris
Price: Fr.fr. 2600 (sewn),
3200 (cloth bound)

The first edition of this concise handbook appeared in 1934. It is meant in

the first place for students, but the authors have also tried to make it a concise reference work for physicians and biologists, by adding more detailed information in smaller type.

The present edition has been brought up to date once more, particularly in the fields of cytochemistry and electron microscopy. The section on endocrine glands has been re-examined in the light of the most recent data.

The book's handy size and clear typography make it very easy to consult. The illustrations are less satisfactory. The sparsely used photomicrographs are not very well reproduced, whereas the black-and-white drawings, in majority original, are usually not very distinct and often reproduced on too small a scale. Coloured plates are lacking.



"LES METAMORPHOSES"

by M. Abeloos
208 pp. with 37 figs
(pocket book size)

Libr. Armand Colin, Paris
Collection Armand Colin, no. 312

This is the first book that deals exclusively with the phenomenon of metamorphosis in a general way. This phenomenon is definable as the transformation of a post-embryonic "larval" stage into an adult form with a different mode of life, and it is sufficiently distinguishable from other developmental phenomena to justify its separate treatment in book-form.

In the first two chapters the author treats the best known phenomena of metamorphosis, viz. those occurring in the amphibians and insects respectively. The third chapter is devoted to a survey of the phenomena of metamorphosis throughout the entire animal kingdom.

The last chapter discusses the problem of the relationships between metamorphosis and evolution.

The book has no alphabetical index and only a very limited bibliography (26 titles). It is illustrated with simple line-drawings.

"PARTHENOGENESIS AND POLYPOIDY IN MAMMALIAN DEVELOPMENT"

1957

by R. A. Beatty
132 pp. with 5 figs
and 2 pls

Cambridge University Press, London
(no. 7 of the "Cambridge Monographs
in Experimental Biology")
Price: 15 s.

The present monograph serves the aim of bringing together all the present knowledge, until now widely scattered in the literature, concerning spontaneous and experimental parthenogenesis and polyploidy in mammals, while at the same time the non-mammalian (mainly amphibian) background is outlined for comparative purposes. The facts are of mainly cytological and embryological nature; those facts relating to postnatal stages still being highly controversial. However, some extrapolation into the post-natal period is attempted by way of working hypothesis.

The main feature of the book is the classification of the subject matter under a number of specific "routes of development", which are characterized by the operation or non-operation, either singly or in combination, of four cytological variables: 1. suppression of the first polar body; 2. of the second polar body; 3. of the first cleavage division; 4. genetic absence of spermatozoa. The author thus distinguishes a major group of sixteen routes of development (eight apomictic = parthenogenetic, and eight amphimictic routes), and a minor group of some ten routes, which are less well understood.

The introductory chapter gives an outline of eutherian development, and furthermore contains the necessary terminological definitions as well as basic information regarding chromosome preparations and chromosome counting. The concluding chapters discuss a variety of subjects, among which are e.g. polyploid evolution in mammals; viability of polyploid mammals; genetic control, sex determination, fertility and growth in parthenogenones and polyplods.

Typographically the book has received the same care as preceding numbers of the series.

"LE MACROMOLECOLE DEI VIVENTI"

1955

Congress Report
Convegno Antonio Baselli
Pallanza, July, 1955
(22 contributors)
348 pp.

Rendiconti dell' Ist.
Lomb. di Sci. e Lettere a Milano.
Cl. di Sci., Vol. 89
Price: \$ 5.—

This book represents a report on a Congress on biological macromolecules, held in Italy during 1955. It is in the form of a series of papers. Of the 22 contributors, 8 are from Italy, 7 from the U.S.A., 4 from England and 3 from other Western-European countries. The contributions are written in English (9), Italian (5), French (2) and German (1). The Italian papers are preceded by a summary in English, all other papers by an Italian summary.

The two papers concerned directly with embryonic stages are entitled: „Le macromolecole nella determinazione embrionale" (by S. Ranzi, 24 pp.) and „La lipovitellina dell'uovo di pollo" (by G. Lanzavecchia, 20 pp.).

The book is concluded by author and subject indexes.

"GESTATION"

Conference Trans. 1954—1956

edited by L. B. Flexner (1st Conf.,
1954) and C. A. Vilee (2nd & 3rd Conf.,
1955 and 1956)

Total no. of pp. 720, figs 304, tabs 45

The Josiah Macy, Jr Foundation,
New York

Price: 1st Conf. \$ 5.—

2nd Conf. \$ 5.—

3rd Conf. \$ 4.75

The Conferences reported on here are part of the Conference Programme of the Josiah Macy, Jr Foundation. This consists of a number of small groups of scientists in medicine and allied disciplines, mainly from the U.S.A., who meet annually for a period of five or more years.

At present the first three reports of the gestation group are available in the

form of three neatly printed and bound books, with a great number of good illustrations. The books contain a total of 22 contributions followed by group discussions. Most of these are concerned with the placenta, but some deal with such subjects as lactation, implantation, fetal circulation, fetal growth, fetal endocrine glands and sex differentiation. Each contribution is followed by a reference list, and each book contains an extensive index.

“DIE SEXUALITÄT”
2nd revised edition, 1956

by M. Hartmann
463 pp. with 288 figs

Gustav Fischer Verlag, Stuttgart
Price: D.M. 54.—

The first edition of this book appeared in 1943. The book is dedicated to C. Correns, and is based to a great extent on Correns' theories of sexuality. The subject matter is divided into four parts, a division based on the one hand on the distinction between genotypical (chromosomal) and “phenotypical” (non-chromosomal) sex determination, and on the other hand on the phase (haploid or diploid) during which sex determination takes place. The book is concluded by chapters on general sex theory and general theory of fertilization.

The general plan and the theoretical basis have not been changed in this new edition. Of course much new material has been incorporated, but some of the older theoretical matter that has been disproved in the meantime, has been omitted. The chapter on diplo-genotypical sex determination (chromosomal sex determination during the diploid phase, occurring in nearly all vertebrates) has been rewritten and considerably extended. In particular a separate section has been devoted to the developmental-physiological basis of this type of sex determination.

The number of illustrations has been increased from 245 to 288, and most of the old figures have been redrawn.

“THE AMERICAN ARBACIA AND OTHER SEA URCHINS”
1956

by Ethel Browne Harvey
298 pp. with 12 text figs and
16 pls (245 photogr.)

Princeton University Press
(lay-out by G. J. Thieme, N.V.,
Nijmegen, Netherlands)
Price: \$ 6.—

The present book is unusual both in form and content. It deals almost exclusively with one species, *Arbacia punctulata*, viewed from many different angles.

The book is composed of four parts. The first of these deals with the subjects of natural history, sex, breeding and classification, but besides this supplies interesting information on such varied subjects as etymology, historical descriptions, fossils and the use of sea urchins as food and medicine.

Parts two and three deal respectively with normal development and with egg centrifugation experiments. The chapters on normal development give equal attention to morphology and physiology. Clear diagrams have been added of the arrangement of membranes and layers before and after fertilization, according to Harvey and Dan. A special chapter is devoted to the sperm.

That this book has arisen from long years of personal experience is clear from the addition of many technical notes to the text.

Again a quite different approach is followed in the fourth part, a compilation of experimental work on *Arbacia punctulata* arranged alphabetically under topics. With each topic a few important references to other species are given. The whole section comprises 83 pages written in note form and printed in small type.

The bibliography according to the author includes all the important papers and books written on *Arbacia punctulata* (and also many on other sea urchins) from about 1850 until 1954. It covers 50 pages of small print.

The original photographic illustrative material is brought together in the form of plates. The total number of photographs is 245. Their reproduction is excellent, as are the typography and lay-out of the book as a whole.

“EXPERIMENTELLE ZELLFORSCHUNG,
Hinweise auf ihre wichtigsten Aufgaben”

3rd edition, 1956

by E. Küster
73 pp.

V.E.B. Gustav Fischer Verlag, Jena
Price: D.M. 6.20 (sewn)

The contents of this booklet by the deceased German plant cytologist, author of „Die Pflanzenzelle”, are sufficiently characterized by the title. The first edition appeared in 1947; the present edition has been brought up to date by the author's wife from the author's own notes.

It must be stressed that the author keeps almost exclusively to the botanical side of the problems throughout the booklet, a fact which is also evident from the author-index.

“BIOLOGY OF THE LABORATORY MOUSE”

1956

by the Staff of the
Roscoe B. Jackson Mem. Lab.
(editor: G. D. Snell)
497 pp. with 172 figs

Dover Publications, Inc.
New York
Price: \$ 6.—

This is an unaltered reprint of the first edition of 1941 (Blakiston Company). Therefore, it is perhaps superfluous to mention that the book contains two chapters of particular significance to embryologists, viz. “The early embryology of the mouse”, and „Reproduction”, both by G. D. Snell. Also of interest is a list of gene and chromosome mutations.

That the book has been reprinted without alteration implies that no literature of the last sixteen years has been incorporated.

The book has been well printed, but unfortunately the numerous photomicrographs have not been reproduced very well, which considerably reduces their value. This does not hold for the beautiful line drawings.

"HANDBOOK OF BIOLOGICAL DATA"

1956

Editor: W. S. Spector
584 pp. small print

W. B. Saunders Co.
Philadelphia, London

This book is the outcome of a project of compilation that has taken seven years, and in which have taken part some 17,000 biological scientists. Its object is to serve the student, the teacher and the biological and medical expert who seeks information outside his own area of specialization.

The book has taken the form of a series of condensed tabular surveys, containing what is considered as „established fact or recognized theory, free of controversies, and representing the consensus of expert judgment and experience in any given field". There are 445 such tables, grouped in 10 categories (e.g. "Genetics, cytogenetics, and reproduction", 141 tables; "Development and morphology", 43 tables).

There is a subject index, covering 38 pages, which should be used in conjunction with the table of contents.

As stated by the editor, the data as presented are by no means complete, but represent only the most generally useful, informative, and comprehensive material. A series of monographs, covering in more detail certain areas in this handbook, are in preparation.

"THE BEGINNINGS OF EMBRYONIC DEVELOPMENT"

1957

edited by A. Tyler,
R. C. von Borstel and C. B. Metz
(15 contributors)
400 pp. with many figs

American Association
for the Advancement of Science,
Washington D.C.
Publ. no. 48
Price: \$ 8.75

The basis for this book was formed by a symposium on "Formation and early development of the embryo", held at Atlanta in December, 1955. In order to extend its coverage, some additional articles were requested from investigators working in the same field.

The total number of articles included is 13. All contributors are leading authorities, respectively from the U.S.A. (10), Italy (3) and England (2). The investigations presented cover descriptive, experimental and physiological work in many classes of animals.

Each article is followed by an extensive list of references. The book is concluded by an alphabetical index. Printing and binding are very good.

"THE STRATEGY OF THE GENES

(A discussion of some aspects of theoretical biology)"

1957

by C. H. Waddington
(with and appendix by H. Kacser)
262 pp. with 47 figs

George Allen and Unwin Ltd
London
Price: 28 s.

The nature of the present book is mainly theoretical. It consists of six essays, the last of which is by H. Kacser.

The first essay, "Form, end and time", is concerned with the nature of biological organisation as such, while the second essay, entitled "The cybernetics of development", deals with the processes which bring biological organisation into being.

The following three essays contain considerations of the theory of evolution. They are entitled respectively: "Selection of, for and by", "The organisation of the gene pool", and "The survival of the adaptable".

After a short philosophical epilogue to the first five essays, which pleads for an epigenetic, rather than a purely phylogenetic consideration of evolution, the last essay treats "Some physico-chemical aspects of biological organisation".

Extensive sub-headings for each chapter, given in the table of contents, provide a useful "abstract" of the subject matter. The book is concluded by a bibliography and an alphabetical index.

"EMBRYOGENESIS IN PLANTS"

1955

by C. W. Wardlaw
381 pp. with 84 figs

Methuen & Co. Ltd, London
John Wiley & Sons, Inc., New York
Price: 45 s.

In this book — the first of its kind — the author has wanted to give a comprehensive survey of initial development in *all* classes of plants, thus using the term "embryo" in its wider sense, including germs developing from spores.

Along with the morphological facts, the author has included, wherever possible, references to the physiological and genetical aspects of development, and to experimental work, thereby acknowledging trends which are much more recent in plant embryology than in the science of animal development.

Lastly, the author considers the implications of embryology for the problems of phylogeny, in particular the questions of parallel and convergent evolution.

The book has an extensive bibliography and alphabetical index. It is well printed and the illustrations are generally of good quality.

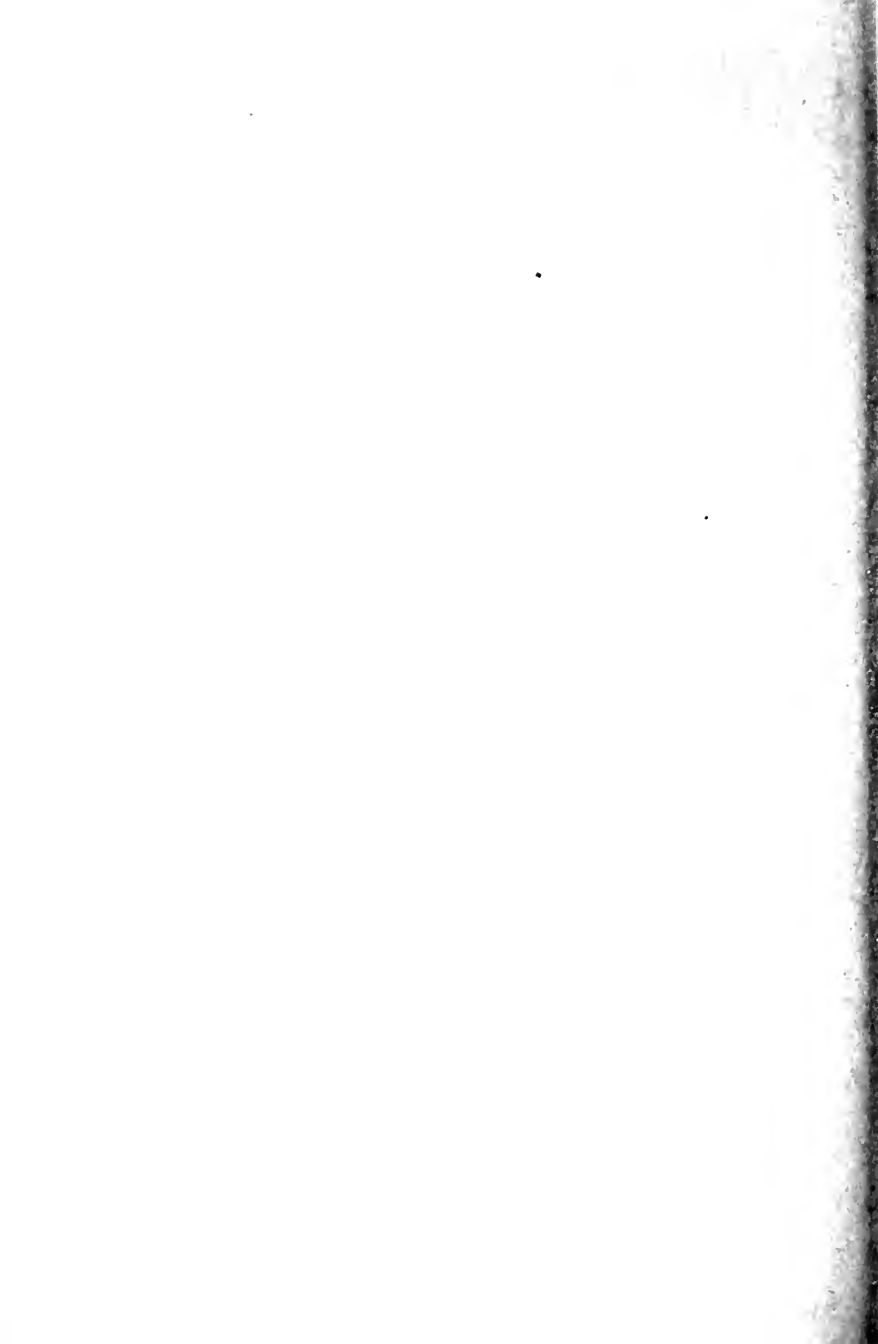
"NEW RESEARCH TECHNIQUES OF NEURO-ANATOMY"

1957

edited by W. F. Windle
(10 contributors)
98 pp. with 25 figs

Charles C. Thomas
Springfield, Ill.
Price: \$ 4.75

This book represents a report of a Symposium sponsored by the National Multiple Sclerosis Society (U.S.A.). Although not bearing strictly on development, it is worth mentioning here because it supplies important information about recent technical developments in such fields as electron microscopy, silver impregnation, tissue culture and histochemistry. The chapter "Tissue culture studies of neural tissue", by Margaret R. Murray, is of more direct interest to embryologists.







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