







GENERAL EMBRYOLOGICAL INFORMATION SERVICE

1953

(fifth issue)

ISSUE OF THE HUBRECHT LABORATORY

Issue of the Hubrecht Laboratory
seat of the

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

CONTENTS

a) Introduction	p. 5
b) List of names and addresses with subjects in preparation (alphabetical order)	p. 7
c) List of institutes with composition of scientific staffs (geographical order)	p. 101
d) List of subjects with names of investigators (arranged according to organ systems and systematic groups)	p. 124
General division	p. 124
I Descriptive and comparative embryology	p. 126
II Experimental developmental morphology	p. 133
III Physiology of development	p. 141
IV Development and genetics	p. 149
V Development and pathology	p. 150
VI Regeneration	p. 152
VII Metamorphosis	p. 154
e) „Supply and Demand” Service for laboratory animals	p. 156
f) General questions and announcements	p. 161
I The Hubrecht Laboratory	p. 161
II The Central Embryological Library (C.E.L.)	p. 161
III The Central Embryological Collection of slides and material	p. 162
IV The Photographic Reproduction Service	p. 163
V The Normal Table of <i>Xenopus laevis</i>	p. 163
g) Communications of the „Institut International d'Embryologie” (Embryological Section of the I.U.B.S.)	p. 164
h) Reviews of recently published textbook on embryology	p. 164

INTRODUCTION

General set-up

From several sides we received the suggestion that the General Embryological Information Service should not be published annually because of the fact that only a part — about one third — of the subjects changes in the course of each year. One must, however, realize that the new subjects reflect the actual progress in this field of science and that they are of particular interest for international cooperation. A biennial appearance has moreover the disadvantage that addresses may gradually get out of date. For these reasons we insisted up till now on publishing the G.E.I.S. annually. When, however, the majority of contributors and subscribers has the feeling that a biennial appearance of the G.E.I.S. will actually fulfil their desires and does not markedly interfere with the usefulness of the G.E.I.S., we are willing to meet this general demand.

Since not only a survey of the current investigations but also other international activities of the Hubrecht Laboratory find expression in the G.E.I.S., activities which would actually be affected adversely by a biennial appearance, we have the intention to publish a supplement to the preceding issue in the interjacent years. This supplement will contain the general announcements of the "Institut International d'Embryologie" and the Hubrecht Laboratory, the "Supply and Demand" Service for laboratory animals and the reviews of new textbooks in the field of embryology and in related fields. Thus we hope that these international activities of the Hubrecht Laboratory will develop normally. We have the pleasure to announce you that we hope to be able to offer this supplement free of charge to all the regular subscribers, the subscription fees for the G.E.I.S. being paid biennially with the appearance of each new issue.

Consequently we intend to publish the sixth issue not until 1955. We should, however, appreciate it very much to have your personal opinion about the question of an annual or biennial appearance of the G.E.I.S. We, therefore, request you to fill in the attached slip for inquiry and send it us at your earliest convenience, so that we might still be able to publish the next issue in 1954, in case the majority of contributors and subscribers should express themselves in favour of an annual publication. We thank you in advance for your personal cooperation.

Will you, please, keep us informed about changes in addresses and academic positions, so that no loss of addresses will occur in the rather long period between the appearance of two successive issues of the G.E.I.S.

The sending-in of data

We ask your attention for the following points:

1. We urgently request you to return forms before August 1st. Data received after November 1st cannot be included in the current issue.

2. A number of collaborators still send us bibliographical data about their recent publications. May we remind those that we only record current or planned investigations?
3. Collaborators working on the same subject are kindly requested to send in separate forms for each of them personally.

Subscriptions

The subscription-fee remains H.fl. 22.75, which corresponds to U.S. \$ 6.—. We want to bring to your special attention that subscriptions are supposed to run until further notice.

We again ask your collaboration to reach those workers in the field of embryology (to be taken in its widest sense) who are not yet included in this issue. Will you please draw their attention to this Service and send us their addresses?

General remarks

The new activity of the Hubrecht Laboratory in the form of the "Supply and Demand" Service for laboratory animals (see page 156) has met with considerable interest and has developed satisfactorily. We are now able to give you data from a dozen biological supply houses and from nearly two dozens of individual institutes. We hope that this service will markedly facilitate the acquisition of living material for scientific research.

Since this service will be published annually we request you to send us supplementary data for 1954 in the course of the first half of the year. You will find a form folded in between the first pages of the chapter concerned (page 156).

The last chapter containing reviews of new textbooks and of revised editions of older ones has been markedly extended, so that we expect that soon a more or less complete survey of new books in the field of embryology and in related fields may be found in this chapter. We decided that this chapter should at any rate be published annually in order to guarantee actuality of the reviews.

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
- a. Régénération. (*Polychaeta*)
- ABERCROMBIE, M. M.A., B.Sc. — Dept of Embryol., Univ. Coll. London, Gower St, LONDON W.C. 1, England (U.K.)
- a. Transplantation experiments on blastoderm tissue culture. *Gallus domesticus* (*Aves*)
- b. Cinematographic study of cell relations in tissue culture. *Gallus domesticus* (*Aves*) (in collaboration with Miss J. E. M. HEAYSMAN)
- c. Regeneration and induced proliferation in the adult. *Rattus norvegicus* (*Rodentia*) (in collaboration with Miss J. E. SANTLER)
- ADAMS, Miss E. C. B.A. — Harvard Univ. Med. School, Dept of Pathol., 25 Shattuck St, BOSTON 15, Mass., U.S.A.
- a. Development of ova from fertilization to 14-days (first missed menstrual period). *Homo* (*Primates*) (in collaboration with A. T. HERTIG, J. ROCK and W. J. MULLIGAN)
- ADAMSTONE, F. B. Ph.D., Prof. — Dept of Zool., Univ. of Illinois, URBANA, Ill., U.S.A.
- a. Development of the amnion. *Gallus domesticus* (*Aves*)
- ADELMANN, H. B. F.I.I.E., Dr, Prof. — Dept of Zool., Cornell Univ., ITHACA, N.Y., U.S.A.
(no data received)
- AHSAN-ul-ISLAM M.Sc. — Dept of Embryol., Univ. Coll. London, Gower St, LONDON W.C. 1, England (U.K.)
- a. Experiments on regional determination. *Gallus domesticus* (*Aves*)
- AKESSON, B. Fil. mag. — Embryol. Dept, Zool. Inst. of the Univ. of Lund, LUND, Sweden
- a. Development of the larva. (*Sipunculidae*)
- ALBRIGHT, J. F. — Dept of Zool., Indiana Univ., BLOOMINGTON, Ind., U.S.A.
- a. Immunochemical and biochemical analysis of the development of the anterior pituitary. *Gallus gallus* (*Aves*)
- b. Analysis of the effects of adult or late embryonic tissue transplants on homologous tissues of the host embryo. Effects on synthesis of desoxyribonucleic acid and proteins. *Gallus gallus* (*Aves*) (in collaboration with J. D. EBERT)
- ALDEN, R. H. Ph.D., Prof. — Univ. of Tennessee, Fac. of Biol. Sci., Med. Units Div., MEMPHIS 3, Tenn., U.S.A.
- a. Study of egg transport and implantation; early development of trophoblast; embryo-maternal relationships during nidation. *Mus* (*Rodentia*)
- ALLANSON, Miss M. Ph.D. — Dept of Zool., King's Coll., Strand, LONDON, W.C. 2, England (U.K.)
(no data received on Nov. 1st, 1953)

- 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
- a. The effect of X-ray irradiation upon the development of the gonad. *Triturus pyrrhogaster (Urodela)*
- AMPRINO, R. M. M.D., Prof. — Inst. of human Anat., Corso Massimo d'Azeglio 52, TORINO, Italy
- a. Qualitative and quantitative development of cornea and sclera following removal of parts of the eye anlage. *Gallus domesticus (Aves)*
 - b. Regulative and regenerative capacities of the primary optic vesicle. *Gallus domesticus (Aves)*
 - c. Effects of the removal of the anlage of the pineal body on the development. *Gallus domesticus (Aves)*
- ANCEL, P. A. F.I.I.E., Dr, Prof. (Honor., Emer.) — Inst. de Biol. physico-chimique, Fac. de Méd., 13 Rue Pierre Curie, PARIS Ve, France — 61 Avenue Niel, PARIS, France
(no data received on Nov. 1st, 1953)
- ANDERS, G. Dr Phil. — Zool.-vergl. Anat. Inst., Naturwiss. Fak., Univ. Zürich, Künstlergasse 16, ZÜRICH 6, Schweiz
(no data received over some years)
- ANDRES, G. Dr — Max-Planck-Inst. für Biologie, Spemannstr. 34, TÜBINGEN, Württemberg, Deutschland
(no data received over some years)
- ANDREW, Miss A. B.Sc.Hons. — Dept of Zool., Univ. of the Witwatersrand, Milner Park, JOHANNESBURG, South Africa
- a. Early embryology. *Tatera brantsi (Rodentia)*
- ANTON, H.-J. Dr — Zool. Inst. der Univ. Köln, Kerpenerstr. 13, KÖLN-LINDENTHAL, Deutschland
- a. Die Regenerationsleistungen heteroplastischer Keimblattchimären. *Triturus vulgaris, cristatus, alpestris (Urodela)*
 - b. Unverträglichkeitsreaktionen bei heteroplastischen Transplantationen. *Triturus vulgaris, cristatus, alpestris (Urodela)*
- AOTO, T. Rigakushi (M.S.) — Zool. Inst., Fac. of Sci., Hokkaido Univ., North 8, West 5, SAPPORO, Japan
(no data received on Nov. 1st, 1953)
- ARIENS KAPPERS, J. M.D., Prof. — Anat.-Embryol. Lab. der Rijks Univ., Oostersingel 69, GRONINGEN, Holland
- a. The development of the brain. *Xenopus laevis (Anura)* (Normal Table)
- ARMSTRONG, P. B. B.S., M.D., Prof. — Dept of Anat., School of Med., State Univ. of New York, SYRACUSE 10, N.Y., U.S.A.
- a. Function in the developing liver. *Ambystoma punctatum (Urodela)* and *Amiurus nebulosus (Teleostei)*
- AROSIO, G. Dott. Sci. Biol. — Ist. di Zool. e Anat. Comp., Univ. di Milano, Via Celoria 10, MILANO, Italia
- a. Myosin. (*Vertebrata*)
 - b. Immunological development. (*Amphibia* and *Mammalia*)
- ASAYAMA, S. M.Sc., Dr.Sc., Prof. — Lab. Exper. Embryol., Inst. of Polytechn., Osaka City Univ., Minami-Ogimati, Kita-ku, OSAKA, Japan

- a. Effects of various proteinic and sterolic hormones upon the sex-differentiation of the gonad. *Hynobius nebulosus* (Schlegel) (*Urodela*)
- b. Histochemical study of gonadogenesis. *Triturus pyrrhogaster* (Boie) and *Hynobius nebulosus* (Schlegel) (*Urodela*)
- ASSENMACHER, I. Dr en Méd. — Inst. d'Embryol., Fac. de Méd., 1 Place de l'Hôpital, STRASBOURG, France
- a. Development of gonads, hypophysis and hypothalamus. *Gallus*, *Anas* and *Columba* (*Aves*) (in collaboration with J. BENOIT)
- ATLAS, M. B.S., A.M., Ph.D., Assoc.Prof. — Dept of Biol., Yeshiva Univ., 186th St and Amsterdam Ave, NEW YORK 33, N.Y., U.S.A.
(no data received over some years)
- ATTARDO, Miss C. Dr — Ist. di Zool., Via Archirafi 18, PALERMO, Italia
- a. Xenoplastic gonad transplantations. (*Amphibia*)
- AUBRY, Miss R. Lic. ès Sci. — Inst. de Zool., Lab. de Biol. génér., Fac. des Sci. de Strasbourg, 12 Rue de l'Université, STRASBOURG, France
- a. Etude de la lignée germinale. (*Amphibia*)
- b. Etude de l'hermaphroditisme. (*Gastropoda*)
- AUSTIN, C. R. M.Sc., B.V.Sc. — Div. of Animal Health and Production, C.S.I.R.O., McMaster Animal Health Lab., Parramatta Rd., Glebe, SYDNEY, N.S.W., Australia
- a. Investigation of fertilization and segmentation by histochemical methods and with phase-contrast microscopy. *Rattus rattus* and *Mus musculus* (*Rodentia*) (in collaboration with A. W. H. BRADEN)
- b. Chemical and physical factors involved in the sperm penetration of the zona pellucida. *Rattus rattus* (*Rodentia*) and *Oryctolagus cuniculus* (*Lagomorpha*) (in collaboration with A. W. H. BRADEN)
- c. Distribution and passage of sperms through female tract; significance of numbers. *Rattus rattus* (*Rodentia*), *Oryctolagus cuniculus* (*Lagomorpha*) and *Ovis aries* (*Artiodactyla*) (in collaboration with A. W. H. BRADEN)
- AVEL, M. F.I.I.E., Dr, Prof. — Fac. des Sci. de Bordeaux, 40 Rue Lamartine, TALENCE (Gironde), France
- AVIS, F. R. A. B. Brown Univ. — Roscoe B. Jackson Memorial Lab., BAR HARBOR, Me. U.S.A.
(no data received over some years)
- AXIANAS, L. — Ist. di Zool. e Anat. Comp. dell'Univ., Via A. Volta 4, PISA, Italia
- a. Development of the gonads. *Rana graeca* (*Anura*)
- BACCI, G. Dr, Prof. — Zool. Dept, Zool. Station, NAPLES, Italy
(no data received)
- BÄCKSTRÖM, S. A. A. — Wenner-Grens Inst. for experimental Biology, Norrtullsgatan 16, STOCKHOLM Va., Sweden
(no data received on Nov. 1st, 1953)
- BAFFONI, G. M. Dr — Lab. di Istol. ed Embriol. della Fac. di Sci., Univ. di Roma, Via A. Borelli 50, ROMA, Italia
- a. Growth and differentiation of the nervous cell. (*Amphibia* and *Insecta*)
- b. Action of hormones on gametogenesis. (*Amphibia*)
- BAGIŃSKI, S. M.D. — Inst. of Histol. & Embryol., Acad. of Med., Narutowicza 60, ŁODZ, Poland
- a. Influence of sulphonamides on the size of embryos. *Gallus* (*Aves*)

- BAIOCCHI, O. — Lab. d'Hormonol. et de Cytol., Ecole Pratique des Hautes Etudes, Hôpital Broca, 111 Rue L. M. Nordmann, PARIS XIII^e, France
- 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)
- BAKER, R. C. B.A., M.Sc., Ph.D., Prof. — Dept of Anat., Ohio State Univ., COLUMBUS 10, Ohio, U.S.A.
(no data received over some years)
- BALINSKY, B. I. F.I.I.E., Dr Biol.Sci. — Dept of Zool., Univ. of the Witwatersrand, Milner Park, JOHANNESBURG, South Africa
- The eye-lens correlation. *Xenopus laevis*, *Bufo regularis*, *Bufo carens*, *Phrynobatrachus natalensis*, *Pyxicephalus delalandii*, *Pyxicephalus adspersus* (*Anura*)
 - The development of the alimentary tract and its accessory parts. *Xenopus laevis* (*Anura*) (Normal Table)
- BALTZER, F. F.I.I.E., Dr, Prof. — Zool. Inst. der Univ. Bern, Sahlstr. 8, BERN, Schweiz
- Entwicklung von Bastarden. *Triton* x *Salamandra* (*Urodela*), *Paracentrotus* und *Psammechinus* x *Arbacia* (*Echinoidea*)
 - Chimären. *Triton* x *Bombinator* (*Amphibia*) (in Zusammenarbeit mit H. EYMANN und W. HENZEN)
 - Problem der Homologie. Chimären (*Amphibia*)
 - Entwicklung enucleirter Eier mit Blastulakernen. *Triton* (*Urodela*) (in Zusammenarbeit mit H. E. LEHMANN, Chapel Hill)
- BARIGOZZI, C. Dr Sci., Prof. Ord. Genet. — Ist. di Genet., Via Celoria 10, Univ. di Milano, MILANO, Italia
- Development of tumours. (*Urodela*)
 - Development of melanomes with different genotypes. *Drosophila* (*Diptera*)
- BARRY, A. Ph.D., Assoc.Prof. — Dept of Anat., Univ. of Michigan, Med. School, 2500 East Med. Bldg, ANN ARBOR, Mich., U.S.A.
(no data received over some years)
- BARRY, T. H. M.Sc. — Zool. Inst., Univ. of Stellenbosch, STELLENBOSCH, South Africa
- Ontogenesis of the skull. *Bufo angusticeps* (*Anura*)
- BARTELMIZ, G. W. Ph.D. — Dept of Embryol., Carnegie Inst. of Washington, Wolfe and Madison Sts. BALTIMORE 5, Md, U.S.A.
- Blood supply of uterus. *Macaca mulatta* (*Primates*)
 - Early development of optic vesicle. *Homo sapiens* (*Primates*)
 - Earliest development of oral hypophysis. (*Primates*)
 - Effects of r u b e l l a on foetus. *Homo sapiens* (*Primates*)
- BARTH, L. G. F.I.I.E., Ph.D., Prof. — Dept of Zool., Fac. of pure Sci., Columbia Univ., Broadway and 166th St, NEW YORK 27, N.Y., U.S.A.
- Chemical embryology of the egg. (*Amphibia*)
 - Determination of polarity. (*Hydroidea* and *Ascidiae*)
- BARTH, Mrs L. J. Ph.D. — Dept of Zool., Fac. of pure Sci., Columbia Univ., Broadway and 166th St, NEW YORK 27, N.Y., U.S.A.
- Phosphate metabolism in the egg. *Rana pipiens* (*Anura*)

- BARTHELEMY, Miss A. — Lab. d'Histol., Dép. d'Embryol., Fac. de Méd., 31 Rue Lionnois, NANCY (Meurthe & Moselle), France
- Structure du spermatozoïde au microscope optique et au microscope électronique. (*Amphibia*) (en collaboration avec A. DOLLANDER)
- BAST, T. H. Ph.D., B.A., Prof. — Dept of Anat., Univ. of Wisconsin, MADISON, Wis., U.S.A.
- Embryology and anatomy of the middle and internal ear. *Homo (Primates)*
- BATTAGLIA, B. Sc.D. — Ist. di Zool. e Anat. Comp., Fac. di Sci., Via Loredan 6, PADOVA, Italia
- Cytochemical aspects of typical and atypical spermatogenesis. (*Prosobranchiata, Gastropoda*)
- BATTLE, Miss H. I. Ph.D., Prof. — Dept of Zool., Univ. of Western Ontario, LONDON, Ont., Canada
- Effects of urethane (ethyl carbamate) on early developmental processes. *Salmo trutta fario, Brachydanio rerio (Teleostei)*
 - A survey of the larval and young fish of central lake Erie. (*Teleostei*)
 - Effects of urethane (ethyl carbamate) on development. *Rana pipiens (Anura)*
- BATTY, Th. A.B. — Dept of Anat., Univ. of Kansas, Med. School, LAWRENCE, Kansas, U.S.A.
- Development of all systems in relation to behaviour. *Opsanus tau (Teleostei)* (in collaboration with H. C. TRACY and J. WINBLAD)
 - Development of the gastro-intestinal tract in relationship to behaviour. *Opsanus tau (Teleostei)*
 - Development of the skeletal, blood vascular, and muscular systems in relationship to behaviour. *Opsanus tau (Teleostei)*
- BAUD, C. A. Dr Méd. — Inst. d'Anat., Fac. de Méd., Univ. de Genève, 20 Rue Ecole de Méd., GENÈVE, Suisse
- Etude du début de la formation des myofibrilles dans l'ébauche cardiaque. *Gallus (Aves)*
- BAUMANN, J. A. Dr, Prof. — 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 (Aves)* (en collaboration avec J. GALLERA)
- BAUTZMANN, H. Dr Med., Prof. — Anat. Inst. der Univ. Hamburg, Schottmüllerstr. 1, HAMBURG 20, Deutschland
- Entwicklungsphysiologie der Primitiventwicklung. (*Vertebrata, bes. Amphibia*)
 - Entwicklung des lymphatischen Systems. (*Vertebrata*)
 - Amnionentwicklung und Histologie. (*Vertebrata*)
- BAXTER, E. W. B.Sc. — Biol. Dept, Guy's Hosp. Med. School, LONDON S.E. 1, England (U.K.)
- Biology, including development and metamorphosis. *Petromyzon (Cyclostomata)*
 - Hybridisation experiments. *Lampetra planeri* x *Lampetra fluviatilis (Cyclostomata)*
 - Rearing of larvae in laboratory. *Lampetra planeri* and *Lampetra fluviatilis (Cyclostomata)*

- BEATTY, R. A. B.A., M.A., Ph.D. — Inst. of Animal Genet., Univ. Dept of Genet., King's Buildings, West Mains Rd, EDINBURGH 9, Scotland (U.K.)
- Heteroploidy and parthenogenesis; egg transfer; operations on embryos. *Mus musculus* (Rodentia) and *Lepus cuniculus* (Lagomorpha)
 - Breeding of genetically tagged strains for use in experimental embryology. *Lepus cuniculus* (Lagomorpha)
- BEAU, A. A. Dr, Prof. — Lab. d'Anat., Inst. Anat., Fac. de Méd., 31 Rue Lionnois, NANCY (Meurthe & Moselle), France
- Recherches sur le développement des ligaments latéraux du genou. *Homo* (Primates)
- BECHT, G. M.Sc. — Physiol. Lab. of the Univ. of Amsterdam, Rapenburgerstraat, AMSTERDAM, Holland
- Influence of duration and intensity of illumination on development. *Xenopus laevis* (Anura)
- BEENAKKERS, A. M. T. B.Sc. — Zool. Lab. der Rijks Univ., Janskerkhof 3, UTRECHT, Holland
- Analysis of head malformations caused by centrifuging the eggs. *Limnaea stagnalis* (Gastropoda)
- BÉLANGER, L. F. Prof. — Dept of Histol., Fac. of Med., Univ. of Ottawa, OTTAWA, Quebec, Canada
(no data received on Nov. 1st, 1953)
- BELLAIRS—MORGAN, Mrs M. R. B.Sc., Ph.D. — Anat. School, Univ. of Cambridge, Downing Street, CAMBRIDGE, England (U.K.)
- Development of the foregut. *Gallus domesticus* (Aves)
 - Morphogenetic movements and factors affecting them. *Brachydanio rerio* (Teleostei), *Gallus domesticus* (Aves)
- BELLANCA, Miss A. Dr — Ist. di Zool. e Anat. comp., Via Università 4, MODENA, Italia
- Activity of sexual hormones on the sexual differentiation of gonads and Bidder's organs in tadpoles. *Rana dalmatina*, *Bufo bufo* (Anura)
- BENAZZI, M. Prof. ord. — Ist. di Zool. e Anat. Comp. dell'Univ., Via A. Volta 4, PISA, Italia
- Fertilization, pseudogamy, polyploidy and heredity. (*Tricladida*, *Turbellaria*)
 - Hybrids. *Triturus vulgaris* x *Tr. cristatus* (Urodela)
- BENAZZI—LENTATI, Mrs G. Lib. Doc. — Ist. di Zool. e Anat. Comp. dell'Univ., Via A. Volta 4, PISA, Italia
- Ovo- and spermatogenesis; fertilization and cytology. (*Tricladida*, *Turbellaria*)
- BENGMARK, S. Med.kand. — Tornblad-Inst. of comp. Embryol., Biskopsgatan 7, LUND, Sweden
(no data received on Nov. 1st, 1953)
- BENOIT, J. Dr en Méd., Dr ès Sci., Prof. — Lab. d'Histophysiologie, Coll. de France, Place Marcelin Berthelot, PARIS Ve, France
- Development of gonads, hypophysis and hypothalamus. *Gallus*, *Anas* and *Columba* (Aves) (in collaboration with I. ASSENMACHER)
- BENOIT, J. A. A. Agr. d'Anat. — Ecole Nationale Vétérinaire, TOULOUSE, France
- Localisation des rayons X avec l'appareil Philips de contact: application à l'embryogénie. *Salmo fario* (Teleostei)

- BER, A. Dr, Prof. — Dept of Endocrinol., Fac. of Med., Acad. of Łódź, Nowotki 137, ŁÓDŹ, Poland
(no embryological work in progress)
- BERG, W. E. A.B., M.S., Ph.D., Prof. — Dept of Zool., Univ. of Calif., BERKELEY 4, Cal., U.S.A.
- a. Physiological studies of mosaic development. Metabolism of isolated blastomeres and polar lobes. *Mytilus edulis* (*Lamellibranchia*)
- BERGEIJK, W. A. van B.Sc. — Dept of Zool., State Univ. of Iowa, IOWA CITY, Iowa, U.S.A.
- a. Physiology of the ear during larval, metamorphic and adult stages. (*Amphibia*)
- BERGQUIST, H. Ph.D. — Inst. of Anat., Med. Fac., GOTHENBURG, Sweden
(no data received on Nov. 1st, 1953)
- BERRILL, N. J. Ph.D., D.Sc., Prof. — Dept of Zool., McGill Univ., MONTREAL, Quebec, Canada
(no data received over some years)
- BIER, K. Dr rer. nat. — Inst. für Angewandte Zool. der Univ., Naturw. Fak., Röntgenring 10, WÜRZBURG, Deutschland.
- a. Untersuchungen über das Schicksal des Polplasmas während der Früh-embryogenese. *Camponotus ligniperda*, *Formica rufa* (*Formicidae*, *Hymenoptera*)
- b. Entwicklung der larvalen Gonaden. *Formica rufa* u.a. (*Formicidae*, *Hymenoptera*)
- BIJTEL, Miss J. H. Dr Sc., M.D. — 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 mex.*, *Triton taen.* and *Xenopus laevis* (*Amphibia*)
- b. Experiments concerning the factors which determine the normal course of the outgrowing pronephric duct. *Ambystoma mex.*, *Triton taen.* and *Xenopus laevis* (*Amphibia*)
- c. Development and phylogenetic origin of the columella auris. *Ambystoma mex.*, *Triton taen.* and *Xenopus laevis* (*Amphibia*)
- d. The development of the eye. *Xenopus laevis* (*Anura*) (Normal Table)
- BILLINGHAM, R. E. M.A., D.phil. (Oxon) — Dept of Zool. and Comp. Anat., Univ. Coll. London, Gower St, LONDON W.C. 1, England (U.K.)
- a. Development of capacity to respond to homologous antigens. *Bos taurus* (*Artiodactyla*) and *Mus musculus* (*Rodentia*)
- BISHOP, D. W. Ph.D. — Dept of Embryol., Carnegie Inst. of Washington, 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*)
- BISS, R. Dr en Méd. — Lab. des Travaux Anat., Fac. de Méd. Nouvelle, 43 Rue des St Peres, PARIS VIe, France
- a. Développement de l'encephale et des nerfs craniens. *Homo* (*Primates*) (en collaboration avec Ch. EYRIES)
- b. Oreille interne et complexe acoustico-facial. *Homo* (*Primates*) (en collaboration avec Ch. EYRIES)

- c. Rhombomeric, *Homo (Primates)* (en collaboration avec Mrs M. BISS—BEZINE et Ch. EYRIES)
- d. Origine du nerf pathétique. *Homo (Primates)* (en collaboration avec Mrs M. BISS—BEZINE et Ch. EYRIES)
- BISS—BEZINE, Mrs M. Dr en Méd. — Lab. des Travaux Anat., Fac. de Méd. Nouvelle, 43 Rue des St Peres, PARIS VIe, France
- a. Rhombomeric, *Homo (Primates)* (en collaboration avec Ch. EYRIES et R. BISS)
- BLECHSCHMIDT, E. Dr Med., o.ö. Prof. — Anat. Inst. der Univ., Burgstr. 51, GÖTTINGEN, Deutschland
- a. Entwicklungsdynamik. *Homo (Primates)*
- BLOKZIJL, E. J. — Anat.-Embryol. Lab. der Rijks Univ., Oostersingel 69, GRONINGEN, Holland
- a. A morphological and experimental study of the development of the limb buds with special reference to the rôle played by the myotomes in the development of the musculature of the limbs. *Ambystoma mex. (Urodela)* and *Mus musculus albinus (Rodentia)*
- BLOUNT, R. F. B.S., M.S., Ph.D., Prof. — Dept of Anat., Med. Branch, Univ. of Texas, GALVESTON, Tex., U.S.A.
- a. Relations of the hypophysis to development. *Ambystoma maculatum (Urodela)*
- b. Experimental hypertension and embryonic transplantation of hypophysis. *Ambystoma maculatum (Urodela)*
- c. Endocrine studies and development, time of beginning function. *Mus musculus* (highly inbred local strain) (*Rodentia*)
- BLUMENTHAL, Miss G. H. B.A., M.S. — Dept of Zool., Univ. of Calif., BERKELEY 4, Cal., U.S.A.
- a. Changes in DNA'se activity during development. *Strongylocentrotus purpuratus (Echinoidea)*
- BLUNTSCHLI, H. F.I.I.E., Dr, Prof. (Emer.) — Anat. Inst., Bühlstr. 26, BERN, Schweiz
(no embryological work in progress)
- BODENSTEIN, D. — Chemical Corps Med. Labs, Army Chemical Center, EDGEWOOD, Md, U.S.A.
- a. The humoral control of growth and metamorphosis, studied by transplantation and parabiosis experiments. *Periplaneta americana (Orthoptera)*
- b. Physiological mechanism of hormone actions; the relations of hormones to fat, protein and carbohydrate metabolism. *Periplaneta americana* and *Drosophila species (Insecta)*
- c. The role of the prothoracic gland in postembryonic development. *Periplaneta americana (Orthoptera)*
- BOEKE, J. F.I.I.E., Dr, Prof. (Emer.) — Ramstraat 47. UTRECHT, Holland
- BOELL, E. J. Ph.D.; M.A., D.Sc. — Osborn Zool. Lab., Yale Univ., NEW HAVEN 11, Conn., U.S.A.
- a. Enzyme development during growth and differentiation. (*Amphibia*)
- BON, W. F. M.Sc. — Anat.-Embryol. Inst., Municipal Univ. of Amsterdam, Mauritskade 61, AMSTERDAM O, Holland

- a. Study about the properties of the eye-lens proteins in adults and embryos. (*Amphibia*), *Gallus (Aves)* (in collaboration with G. ten CATE and M. H. J. ZUIDWEG)
- BONDI, C. Dott. — Ist. di Biol. gen., Fac. di Med., S. Pietro, PERUGIA, Italia
- a. Ricerche sperimentali sulla catalasi (ossifiro di Spirito). *Bufo viridis e vulgaris (Anura)*
- b. Rigenerazione ed azione del LiCl. *Planaria nigra (Turbellaria)*
- BONNER, J. T. Ph.D., Assoc. Prof. — Dept of Biol., Princeton Univ., PRINCETON, N. J., U.S.A.
- a. Problems of morphogenetic movements and differentiation. *Dictyostelium discoideum (Acrasiales)*
- b. Development of surface structures. *Euplotes eurystomus (Protozoa)*
- BONIN, W. B.A., M.D., Prof. — Dépt d'Histol. et d'Embryol., Univ. de Montreal, 2900 Boulevard du Mont-Royal, MONTREAL, Canada (no embryological work in progress)
- 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 egg to pre-adult. Egg deposition, culture methods, day to day observations and records of living larvae and juveniles, study of fixed and sectioned material. *Dasybranchus caducus (Polychaeta)*
- b. 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)*
- BOREI, H. Ph.D. — Wenner-Grens Inst. for experimental Biology, Norrullsgatan 16, STOCKHOLM Va., Sweden (no data received on Nov. 1st, 1953)
- BOSE, A. M.Sc. — Cell Research Unit., Chittaranjan Cancer Hospital, CALCUTTA 26, India
- a. Cytochemical studies of the radiation action on embryonic cells. *Gallus (Aves)* (in collaboration with S. MOOKERJEE)
- b. Localisation of the alkaline phosphatase in the development of the vertebral column. *Gallus (Aves)*
- BOSQUE, P. G. Dr Med., Prof.adj. — Anat. Inst. der Univ., Robert Koch-str. 6, MARBURG/Lahn, Deutschland
- a. Die Entwicklung des Truncus sympathicus und der praevertebralen Ganglien und deren Beziehung zu den Umbauprozessen des Intestinaltrakts während der Metamorphose. *Xenopus laevis (Anura)*
- BOUIN, P. Dr, Prof. (Emer.) — VENDRESSE, Ardennes, France
- BOUNOURE, L. Prof. — Inst. de Zool., Lab. de Biol. gén., Fac. des Sci. de Strasbourg, 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. — Dept of Embryol., Carnegie Inst. of Washington, Wolfe and Madison Sts, BALTIMORE 5, Md, U.S.A.
- a. Blastocyst orientation and implantation mechanisms. *Lepus cuniculus (Lagomorpha)*
- b. Relation of trophoblast invasion to bloodvessels underlying uterine epithelium. *Lepus cuniculus (Lagomorpha)*

- BOYD, J. D. M.A., M.Sc., M.D., Prof. — Anat. School, Univ. of Cambridge, CAMBRIDGE, England (U.K.)
- Organogenesis. *Homo (Primates)*
 - Placental development and structure. *Homo (Primates)*
 - Development and distribution of pigment cells. *Homo (Primates)*
- BOYER, C. C. B.S., M.A., Ph.D., Prof. — Univ. of Alabama, Med. Center, BIRMINGHAM 5, Alabama, U.S.A.
- Development of central nervous system. *Cricetus auratus (Rodentia)*
- BRACHET, J. L. A. F.I.I.E., M.D., Prof. — Lab. de Morphol. anim., Univ. libre de Bruxelles, 1850 Chaussée de Wavre, BRUXELLES-Auderghem, Belgique
- Studies on the metabolism of lethal hybrids. (*Amphibia*)
 - Cytochemical observations on the first developmental stages. (*Amphibia*) (in collaboration with J. J. PASTEELS)
 - Action of heavy metals on development. *Rana, Ambystoma (Amphibia)*
- BRADEN, A. W. H. B.Sc. (Adelaide), M.Sc. — Div. of Animal Health and Production, C.S.I.R.O., McMaster Animal Health Lab., Parramatta Rd., Glebe, SYDNEY, N.S.W., Australia
- Investigation of fertilization and segmentation by histochemical methods and with phase-contrast microscopy. *Rattus rattus* and *Mus musculus (Rodentia)* (in collaboration with C. R. AUSTIN)
 - Chemical and physical factors involved in the sperm penetration of the zona pellucida. *Rattus rattus (Rodentia)* and *Oryctolagus cuniculus (Lagomorpha)* (in collaboration with C. R. AUSTIN)
 - Distribution and passage of sperms through female tract; significance of numbers. *Rattus rattus (Rodentia)*, *Oryctolagus cuniculus (Lagomorpha)* and *Ovis aries (Artiodactyla)* (in collaboration with C. R. AUSTIN)
- BRAMBELL, F. W. R. B.A., Ph.D., D.Sc., F.R.S. — Dept of Zool., Univ. Coll. of North Wales, BANGOR, Caernarvonshire, N. Wales (U.K.)
- Immunological relations of mother and young. *Oryctolagus cuniculus (Lagomorpha)*
- BRANDT, W. M.D., Ph.D. — Dept of Anat., The Med. School, Birmingham Univ., Edgbaston, BIRMINGHAM 15, England (U.K.) (no data received on Nov. 1st, 1953)
- BRETSCHER, A. Dr Phil.nat. — Abt. für Zoophysiol., Zool. Inst. der Univ., Sahlistr. 8, BERN, Schweiz
- Development of the leg; polydactyly. *Gallus domesticus (Aves)*
 - Development of the leg; influence of colchicine. *Gallus domesticus (Aves)*
 - Development of the leg; influence of the epidermis. *Gallus domesticus (Aves)*
- BRETSCHNEIDER, L. H. — Zool. Lab. der Rijks Univ., Janskerkhof 3, UTRECHT, Holland (no embryological work in progress)
- BRIEN, P. L. F.I.I.E., Dr, Prof. — Lab. de Zool, Fac. des Sci., Inst. de Zool. Torley-Rousseau, Univ. libre de Bruxelles, 50 Av. F. D. Roosevelt, BRUXELLES, Belgique (no data received over some years)
- BRIGGS, R. W. Ph.D. — Lankenau Hospital Research Inst. and Inst. for Cancer Research, Burholme Ave, Fox Chase, PHILADELPHIA 11, Pa, U.S.A.

- a. The problem of nuclear differentiation, investigated by means of transplantation of embryonic cell nuclei into enucleated eggs. *Rana (Anura)* (in collaboration with T. J. KING)
- BRIONES, H. M.D. — Inst. de Biol. „Juán Noé”, Univ. de Chile, Casilla 2988, SANTIAGO, Chile
(no data received on Nov. 1st, 1953)
- BROERS, C. J. M.Sc. — Anat.-Embryol. Lab. der Rijks Univ., Janskerkhof 3, UTRECHT, Holland
- a. The development of the tympanic region and skull. (*Mammalia*)
- BRØNDSTED, H. V. F.I.I.E., Dr Phil., Prof. — Inst. for Alm. Zool., Universitetsparken 3, COPENHAGEN Ø, Denmark
- a. Regeneration problems. *Spongilla (Porifera)*
b. Regeneration problems. *Planaria (Turbellaria)*
- BROOKBANK, J. W. B.A., M.S. — Dept of Embryol., Div. of Biol., Calif. Inst. of Technol., PASADENA 4, Cal., U.S.A.
- a. Urease of developing embryos. *Strongylocentrotus purpuratus (Echinoidea)*
- BRUNER, Miss J. A. Ph.D. — Dept of Zool., State Univ. of Iowa, IOWA CITY, Iowa, U.S.A.
- a. Hormones and sex differentiation. *Ambystoma (Urodela)*
b. Respiratory metabolism of eggs. *Rana pipiens (Anura)*
c. Natural causes of teratogenic development. (*Mammalia*)
- BUCHER, N. — Zool.-vergl. Anat. Inst., Naturwiss. Fak., Univ. Zürich, Künstlergasse 16, ZÜRICH 6, Schweiz
(no data received over some years)
- BUNO, W. F.I.I.E., B.S., Ph.D., Prof. — Dept de Histol. y Embriol., Fac. de Med., MONTEVIDEO, Uruguay, S. América
(no data received over some years)
- BURDON-JONES, C. B.Sc., Ph.D. — Dept of Zool., Univ. Coll. of North Wales, BANGOR, Caernarvonshire, N. Wales (U.K.)
- a. Embryology. (*Protochordata*)
- BURNS, R. K. F.I.I.E., A.B., Ph.D. — Dept of Embryol., Carnegie Inst. of Washington, Wolfe and Madison Sts, BALTIMORE 5, Md, U.S.A. — Hon. Prof. of Zool., Dept of Biol., The Johns Hopkins Univ., BALTIMORE 18, Md, U.S.A.
- a. The experimental control of sex differentiation in the embryo by means of hormones. *Didelphys virginiana (Marsupialia)*
b. A study of gonad modifications induced by hormones, and the reactions of the gonoducts and urogenital sinus to hormones. *Didelphys virginiana (Marsupialia)*
- BUSER—LAHAYE, Mrs J. Dr ès Sci. — Lab. de Biol. Anim., Centre d'Etudes Sup. Sci., Avenue Biarnay, RABAT, Maroc
- a. Régénération des nageoires. (*Teleostei*)
- BUTLER, E. G. Ph.D., Sc.D., Prof. — Dept of Biol., Princeton Univ., PRINCETON, N.J., U.S.A.
- 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* and *Ambystoma opacum (Urodela)*

- b. Blastema formation and regeneration in limbs in which proximodistal polarity has been reversed. *Ambystoma punctatum* and *Ambystoma opacum* (*Urodela*)
- c. Regression (reduction) and subsequent reconstitution. *Clavelina lepadiformis* (*Tunicata, Urochordata*)
- d. Effects of ultraviolet radiation on limb development and limb regeneration. (*Urodela*)
- BUTROS, J. M.A., Ph.D. — American Univ., BEIRUT, Lebanon
(no embryological work in progress)
- BUTZ, P. — Zool. Inst. der Univ., Katharinenstr. 20, FREIBURG i. Brsg., Deutschland
- a. Entwicklung der Schleistung. (*Lepidoptera; Culicidae, Diptera*) (gemeinsam mit H. LÜDTKE)
- BYCZKOWSKA, Miss W. Mgr — Zakład Anat. Porównawczej U. J. im H. Hoyer, św. Anny 6, KRAKOW, Poland
- a. Proteolytic activity of the yolk sac cell, investigated by tissue culture method. *Gallus* (*Aves*)
- CAIRNS, J. M. A.B., M.S., Ph.D., Asst Prof. — Dept of Anatomy, School of Med., Univ. of Oklahoma, OKLAHOMA CITY, Okla., U.S.A.
(no data received on Nov. 1st, 1953)
- CALLAN, H. G. M.A., D.Sc., Prof. — Dept of Zool., The University, ST ANDREWS, Fife, Scotland (U.K.)
(no data received on Nov. 1st, 1953)
- CAMBAR, R. Dr — Lab. de Biol. Gén., Fac. des Sci. de Bordeaux, 40 Rue Lamartine, TALENCE (Gironde), France (*Anura*)
- a. Les facteurs de la morphogenèse du mésonephros. *Rana, Alytes, Xenopus*
- b. Etude du développement du système pronéphrétique, en particulier de l'uretère primaire. *Rana, Alytes, Xenopus* (*Anura*)
- c. Table chronologique du développement normal. *Rana, Alytes* (*Anura*)
- d. Analyse expérimentale des phénomènes de l'éclosion. (*Anura*)
- e. Développement du système rénal. *Xenopus laevis* (*Anura*) (Normal Table) (en collaboration avec M. WILLIAUME)
- CAMPENHOUT, E. van F.I.I.E., Dr, Prof. — Inst. d'Anat., Univ. de Louvain, 38 Rue des Récollets, LOUVAIN, Belgique
- CARPENTER, Miss E. B.A., M.S., Ph.D. — Zool. Dept, Smith College, NORTHAMPTON, Mass., U.S.A.
(no data received on Nov. 1st, 1953)
- CARR, Miss E. B. (Mrs LAURENCE) B.Sc., Ph. D. — Dept of Embryol., Univ. Coll. London, Gower St, LONDON W.C. 1, England (U.K.)
- a. Embryonic and postnatal development. (*Marsupialia* and Eutherian *Mammalia*)
- CARRANO, Miss F. Dr — Ist. di Zool., Via Archirafi 18, PALERMO, Italia
- a. Xenoplastic chimaerae. (*Amphibia*)
- CARTER, T. C. Ph.D. — Med. Res. Council. Inst. of Animal Genet., King's Buildings, West Mains Rd, EDINBURGH 9, Scotland (U.K.)
- a. Developmental study of a radial hemimelia mutant. *Mus musculus* (*Rodentia*)
- b. Developmental study of the myelencephalic blebs mutant. *Mus musculus* (*Rodentia*)

- CASE, J. F. Ph.D. Johns Hopkins Univ. — U.S. Dept of Agriculture, Bureau of Animal Industry, BELTSVILLE, Md, U.S.A.
(no data received over some years)
- CASPARI, E. W. Ph.D., Prof. — Dept of Biol., Wesleyan Univ., MIDDLETOWN, Conn., U.S.A.
- Development of eye pigmentation in wild type, aa and wa wa strains. *Ephestia kühniella* (*Lepidoptera*)
 - Development of tail structure in normal, Brachyury, Kinky and Fused strains. *Mus musculus* (*Rodentia*)
 - Mitochondria in development and heredity. *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*)
 - Fermenti embrionali. *Petromyzon* (*Cyclostomata*)
- CASTIGLIONI, Miss M. C. Dr — Ist. di Genet., Via Celoria 10, Univ. di Milano, MILANO, Italia
- Development of imaginal discs for the study of the compound eye formation. *Drosophila* (*Diptera*)
 - Transplantation of eye discs between stocks with developmental abnormalities of the eye. *Drosophila* (*Diptera*)
 - Paper chromatography of mutants. *Drosophila* (*Diptera*)
- CASTRO, F. De F.I.I.E., Dr, Prof. — Instituto Cajal, MADRID, Spain
- CATE, G. ten M.D. — Anat.-Embryol. Inst., Municipal Univ. of Amsterdam, Mauritskade 61, AMSTERDAM O, Holland
- Study about the origin of the specific lens protein α -crystallin in development. (*Amphibia*), *Gallus* (*Aves*) (in collaboration with W. F. BON and M. H. J. ZUIDWEG)
- CATES, C. H. A.B. — Dept of Anat., Med. School, Univ. of Kansas, LAWRENCE, Kansas, U.S.A.
- Comparative cell counts of cervical spinal ganglia and ventral horn on the normal side with the opposite where the anterior extremity failed to develop. *Ovis aries* (*Artiodactyla*)
- CEI, J. M. Dr Biol.Sc. — Inst. de Zool., Univ. Nac. de Tucumán, Miguel Lillo 205, TUCUMAN, Argentina, S. America
(no data received over some years)
- CELESTINO da COSTA, A. F.I.I.E., Dr hon.causa: Bordeaux 1923, Toulouse 1929, Prof. — Inst. de Histol. e Embriol., Fac. de Med., LISBOA, Portugal
- CENACCHI, Miss M. Dr Nat. Hist. — Ist. di Anat. Comp., Via Belmeloro 8, BOLOGNA (103), Italia
- Variations of total P during development. *Rana esculenta* (*Anura*)
- CENTAMORI, M. Dott. — Ist. di Biol. gen., Fac. di Med., S. Pietro, PERUGIA, Italia
- Comportamento degli acidi nucleinici in embrioni di vegetali. *Lupinus albus* (*Leguminosae*)
 - Ricerche sull'ossiforo di spirito (catalasi) negli embrioni di uccelli. *Gallus* (*Aves*) (*Leguminosae*)
 - Azione dei campi magnetici sugli embrioni di vegetali. *Vicia faba*

- CHANDEBOIS, Miss R. Lic. ès Sci. — Lab. de Zool. génér. de la Fac. des Sci., Place Victor Hugo, MARSEILLE, France
- Régénération. *Planaria* (*Turbellaria*)
- CHANG, C. Y. M.S., Ph.D. — Dept of Zool., State Univ. of Iowa, IOWA CITY, Iowa, U.S.A.
- Sex determination by steroid hormones. (*Anura*)
 - Parabiosis and sex differentiation. *Xenopus* (*Anura*)
 - Inheritance of polymely. *Bufo* (*Anura*)
 - Sex inheritance and differentiation. (*Ranidae*)
- CHANG, M. C. Ph.D. — Worcester Foundation for Exper. Biol., 222 Maple Ave, SHREWSBURY, Mass., U.S.A.
(no data received on Nov. 1st, 1953)
- 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
(no embryological work in progress)
- CHASE, H. B. Ph.D., Prof. — Arnold Biol. Lab., Brown Univ., PROVIDENCE 12, R.I., U.S.A.
- A study of anophthalmia and microphthalmia. *Mus musculus* (*Rodentia*)
 - A study of skin and its derivatives with emphasis on hair development and pigment distribution. *Mus musculus* (*Rodentia*)
- CHEN, J M. — Strangeways Research Lab., Wort's Causeway, CAMBRIDGE, England (U.K.)
(no data received on Nov. 1st, 1953)
- 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.
- Retardation effect of dimethylated xanthines on development. *Arbacia punctulata* (*Echinoidea*)
 - Theophylline, theobromine, and caffeine effects on fecundity and development. *Rattus norvegicus* (*Rodentia*)
 - Effect of di- and trimethylated xanthines on root tip growth. *Allium* (*Liliaceae*)
 - Effect of methylated xanthines on the oxygen consumption of the fertilized egg and early embryology. *Arbacia punctulata* (*Echinoidea*)
- CHIRIBOGA, J. M.D. — Central de Investig., Minist. de Salud Públ. de la Nacion, Bolivar 1128, BUENOS AIRES, Argentina
(no data received on Nov. 1st, 1953)
- CHUANG HSIAO HUI F.I.I.E., Dr rer.nat., Dr rer.nat.habil. — Lab. of Developm. Physiol., Inst. of Exper. Biol., Acad. Sinica, 865 Chang Ning Rd, SHANGHAI, China (no data received over some years)
- CHURCH, G. A.B. — Dept of Biol. Sci., Stanford Univ., STANFORD, Cal., U.S.A.
- The growth of graft hybrids. (*Amphibia*)
- CIGADA, Miss M. Dott. Sci. Biol. — Ist. di Zool. e Anat. Comp., Univ. di Milano, Via Celoria 10, MILANO, Italia
- Protein changes in embryonic development. (*Echinodermata*, *Amphibia* and *Aves*)
- CITTERIO, P. Grad.stud. — Ist. di Zool. e Anat. Comp., Univ. di Milano, Via Celoria 10, MILANO, Italia
- Determination in early development. (*Echinodermata* and *Amphibia*)

- CLANCY, C. W. Assoc.Prof. — Biol. Dept, Univ. of Oregon, EUGENE, Ore, U.S.A.
(no data received over some years)
- CLARK, E. R. A.B., M.D., Sc.D., Prof. (Emer.) — Dept of Anat., School of Med., Univ. of Pennsylvania, PHILADELPHIA 4, Pa. U.S.A.
(no data received over some years)
- CLARK, H. B.A., Ph.D., Prof. — Dept of Zool., Univ. of Connecticut, STORRS, Conn., U.S.A.
- Excretion in embryos. *Coluber c. constrictor* (Serpentes)
 - Respiration in embryos. *Coluber c. constrictor* (Serpentes)
 - Excretion in embryos. *Gallus domesticus* (Aves) (in collaboration with D. FISCHER)
 - Placental function. *Thammophis s. sirtalis* (Serpentes) (in collaboration with Miss B. HONIO)
 - Factors affecting reaggregation of segregated cells in tissue culture. (in collaboration with J. E. SHANNON)
- CLAVERT, J. Dr en Méd., Dr ès Sci., Prof. — Inst. d'Embryol., Fac. de Méd., 1 Place de l'Hôpital, STRASBOURG, France
- Egg formation (Rôle of female hormone in vitellogenesis). *Columba*, *Anas* and *Gallus* (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 (U.K.)
- 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)
 - Electron microscope study of cytoplasmic inclusions. (Amphibia) (in collaboration with G. G. SELMAN)
 - Studies of differentiation by immunological and chromatographic techniques. *Mus musculus* (Rodentia)
- CLEAT, N. D. B.Sc. — Dept of Genet., The University, GLASGOW W. 2, Scotland (U.K.)
- Post-embryonic growth and development. *Schelorbates laevigatus* (Koch) (Acarina, Arachnoidea)
- CLEGG, E. J. M.B., Ch.B. — Dept of Anat., Univ. of Liverpool, LIVERPOOL, England (U.K.)
- The importance of the vascularization of the prostate and seminal vesicles for the viability of spermatozoa. (Mammalia)
- CLELAND, K. W. M.B., B.S. — Dept of Histol. and Embryol., Univ. of Sydney, SYDNEY, N.S.W., Australia
- Carbohydrate metabolism and phosphorylation during fertilization and cleavage. *Psammechinus miliaris*, *Echinus esculentus* (Echinoidea); *Gryphea commercialis* (Lamellibranchiata)
 - Effect of heavy metals on fertilization and cleavage. *Psammechinus miliaris*, *Echinus esculentus* (Echinoidea); *Gryphea commercialis* (Lamellibranchiata)
 - Physical changes in eggs during fertilization and cleavage. *Gryphea commercialis* (Lamellibranchiata)

- CLEMENT, A. C. Ph.D., Prof. — Dept of Biol., Emory Univ., ATLANTA, Ga, U.S.A.
- Localization of morphogenic factors: experimental analysis. *Ilyanassa obsoleta* (*Gastropoda*)
- COHEN, A. I. Ph.D. — Dept of Zool., Univ. of Calif., BERKELEY 4, Cal., U.S.A.
- Glycolysis in the early embryo. *Rana pipiens* (*Anura*)
 - The metabolism of enuclear cells. *Rana pipiens* (*Anura*)
- COHEN, P. — Anat.-Embryol. Inst., Municipal Univ. of Amsterdam, Mauritskade 61, AMSTERDAM O, Holland
- Histochemical analysis of regenerating limbs and tails. (*Urodela*) (in collaboration with H. A. L. TRAMPUSCH)
- COHN, S. A. B.S., M.S., Ph.D. — Univ. of Tennessee, Fac. of Biol. Sci., Med. Units Div., MEMPHIS 3, Tenn., U.S.A.
- The development of glands of ectodermal origin. *Mus musculus* (*Rodentia*), *Gallus domesticus* (*Aves*)
 - Cytological, cytochemical and histochemical studies on the initiation of secretory activity in developing ectodermal glands. *Mus musculus* (*Rodentia*)
- COLOMBO, G. Dr Biol.Sci. — Ist. di Zool. e Anat. Comp., Fac. di Sci., Via Loredan 6, PADOVA, Italia
- Chromosomes in early development. (*Amphibia*)
 - Effects of hormones on cleavage and early development. (*Amphibia*)
 - Gametogenesis. (*Arthropoda*)
- COLWIN, A. L. Ph.D., Prof. — Dept of Biol., Queens Coll., Flushing 67, L.I., NEW YORK, N.Y., U.S.A.
- Fertilization reaction. *Saccoglossus* (*Enteropneusta*) (in collaboration with Mrs L. H. COLWIN)
 - Normal and experimental development. *Saccoglossus* (*Enteropneusta*) (in collaboration with Mrs L. H. COLWIN)
 - Effect of certain chemicals on development. *Mogula*, *Ciona* and *Styela* (*Tunicata*, *Urochordata*)
- COLWIN, Mrs L. HUNTER Ph.D., Prof. — Dept of Biol., Queens Coll., Flushing 67, L.I., NEW YORK, N.Y., U.S.A.
- Fertilization reaction. *Saccoglossus* (*Enteropneusta*) (in collaboration with A. L. COLWIN)
 - Normal and experimental development. *Saccoglossus* (*Enteropneusta*) (in collaboration with A. L. COLWIN)
 - Study of the development. *Thyone* (*Holothuria*)
- CONAWAY, C. H. — Dept of Anat., Univ. of Wisconsin, MADISON, Wis., U.S.A.
- Development and morphology of the ovary. *Talpidae* (*Insectivora*)
- CONINCK, L. A. P. De Dr Sc., Prof. — Lab. voor Zool., Afd. Morphol., Universiteitstraat 14, GENT, België (no data on Nov. 1st, 1953)
- † CONKLIN, E. G. Dr, Prof. (Emer.) — Princeton Univ., PRINCETON, N.J., U.S.A.
- COPENHAVER, W. M. Dr, Prof. — Coll. of Physicians and Surgeons, Columbia Univ., 632 West 168th St, NEW YORK City, N.Y., U.S.A. (no data received)

- CORDEIRO, A. R. Dr — Lab. de Genét., Fac. de Filos., Avenida João Pessoa, PORTO ALEGRE, Brasil, S. America
(no data received over some years)
- CORDIER, J. Dr, Prof. — Lab. d'Histol., Fac. de Méd. de l'Univ., 97 Rue aux Laines, BRUXELLES, Belgique
- a. Development of the skin and its sense organs, including histological study of the development of the chromatophores. *Xenopus laevis* (*Anura*) (Normal Table)
- CORLISS, C. E. B.S., M.S., Ph.D. — Fac. of Biol., Med. Units Div., 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*) (*dentia*)
 - b. Colchicine toxicity to embryonic tissue. *Mus norvegicus albinus* (*Rodentia*)
- CORNER, G. W. F.I.I.E., A.B., M.D., D.Sc., Prof. — Dept of Embryol., Carnegie Inst. of Washington, Wolfe and Madison Sts, BALTIMORE 5, Md, U.S.A.
- a. Histology of uterus and ovaries in reproductive cycle. Chiefly *Macacus rhesus* (*Primates*)
 - b. Physiology of uterine muscle. (*Mammalia*)
 - c. Uterine innervation. *Oryctolagus cuniculus* and other laboratory animals (*Mammalia*)
 - d. Intravital staining, trypan blue.
- COSTELLO, D. P. F.I.I.E., Ph.D., Prof. — Dept of Zool., Univ. of North Carolina, CHAPEL HILL, N.C., U.S.A.
- a. Effects of radio-isotopes on mitosis. *Ambystoma maculatum* (*Urodela*) and *Chaetopterus pergamentaceus* (*Annelida*) (in collaboration with Miss C. HENLEY and D. E. KENT)
- COTRONEI, G. F.I.I.E., Dott., Prof. — Ist. di Anat. Comp. dell'Univ., Fac. di Sci., Via Borelli 50, ROMA, Italia
- a. Risultati sperimentali e problemi sui trapianti, espianti, parabiosi xenoplastiche. (*Amphibia*)
- COULOMBRE, A. J. B.S., M.S. — Dept of Biol., The Johns Hopkins Univ., Charles and 34th Sts, BALTIMORE 18, Md, U.S.A.
- a. Growth, histogenesis and developmental chemistry of the retina. *Gallus domesticus* (*Aves*)
 - b. The interrelationships of the pigmented coat and the visual retina during development. *Gallus domesticus* (*Aves*)
- COUNCE, Miss S. J. B.A., M.A. — Inst. of Animal Genet., Univ. Dept of Genet., King's Buildings, West Mains Rd, EDINBURGH 9, Scotland (U.K.)
- a. Effect of three rudimentary alleles, fused, Lyra and deep orange, on embryonic development. *Drosophila melanogaster* (*Diptera*)
 - b. Effect of ultra-sonic treatment on embryonic development. *Drosophila* (*Diptera*) (in collaboration with G. G. SELMAN)
 - c. Egg development in the ovaries of female steriles. *Drosophila* (*Diptera*)
 - b. Biochemistry of the myometrium. (*Mammalia*)
collaboration with D. A. EDE — Photography by E. C. A. LUCEY)
- COURRIER, R. Prof. — Lab. de Morphol. expér. et Endocrinol., Coll. de France, Place Marcelin Berthelot, PARIS Ve, France
(no data received over some years)

- CRARY, D. D. — Roscoe B. Jackson Memorial Lab., Box 558, BAR HARBOR, Me. U.S.A. (no data received over some years)
- CRELIN, E. S. Ph.D. — Anat. Dept, School of Med., Yale Univ., NEW HAVEN 11, Conn., U.S.A.
- Physiological projection of the retinal quadrants on the optic tectum. *Triturus v. viridescens* (Urodela) (in collaboration with L. S. STONE)
 - Excision and rotation of the developing optic tectum and subsequent visual behavior. *Ambystoma punctatum* (Urodela) (in collaboration with L. S. STONE)
- CRESP, J. Lic. ès Sci. — Lab. de Zool. génér. de la Fac. des Sci., Place Victor Hugo, MARSEILLE, France
- Régénération. *Serpulidae* (Polychaeta)
- CREUTZBERG, F. B.Sc. — Zool. Lab. der Rijks Univ., Janskerkhof 3, UTRECHT, Holland
- Exogastrulation produced by potassium chloride. *Limnaca stagnalis* (Gastropoda)
- CRISP, D. J. Ph.D. — Marine Biol. Stat., Univ. Coll. of N. Wales, BANGOR, N. Wales (U.K.)
- Breeding and development. *Balanus hameri*, *B. porcatus*, *Chthamalus stellatus* (British Cirripedia)
- CROWELL, P. S. — Dept of Zool., Indiana Univ., BLOOMINGTON, Ind., U.S.A.
- Experimental analysis of morphogenesis. *Campanularia* (Cordylophora, Hydractinia)
- CSAPO, A. I. M.D. — Dept of Embryol., Carnegie Inst. of Washington, Wolfe and Madison Sts, BALTIMORE 5, Md, U.S.A.
- Physiology of uterine muscle, including developmental physiology. *Sus scrofa* and *Lepus cuniculus* (Mammalia)
 - Biochemistry of the myometrium. (Mammalia)
 - Energetics of the myometrium. (Mammalia)
 - The mechanism of estrogen and progesterone effect. (Mammalia)
 - Technical considerations concerning uterine pharmacology. (Mammalia)
 - The maintenance of pregnancy and its disorders. (Mammalia)
- CZAPIK, Miss A. D.Sc. — Zool. Dept of the Jagellonian Univ., St Anne 6, KRAKOW, Poland (no data received on Nov. 1st, 1953)
- DAINTY, J. M.A. — Inst. of Animal Genet., Univ. Dept of Genet., King's Buildings, West Mains Rd, EDINBURGH 9, Scotland (U.K.)
- Physical aspects of growth and development.
- DALCQ, A. M. F.I.I.E., M.D., Prof. — Lab. d'Anat. et d'Embryol., Fac. de Méd. de l'Univ., 97 Rue aux Laines, BRUXELLES, Belgique (no data received on Nov. 1st, 1953)
- DALTON, H. C. Ph.D., Assoc. Prof. — Dept of Zool., New York Univ., NEW YORK, N.Y., U.S.A.
- Gene action controlling development of pigmentation in white and dark strains. *Ambystoma mexicanum* (Urodela)
 - Role of embryonic pituitary activity in development of pigment patterns. *Ambystoma mexicanum* (Urodela)
- DAMAS, H. F. C. Dr Sc., Agr. Zool., Prof. — Inst. de Zool. Ed. Van Beneden, Dépt Morphol. des Chordés, Fac. des Sci., 22 Quai Ed. Van Beneden, LIÈGE, Belgique

- a. Etude descriptive et comparative du développement. *Petromyzon marinus*, *Lampetra fluviatilis* et *L. planeri* (*Cyclostomata*)
- DAN, Mrs J. C. Ph.D. — Embryol. Section, Dept of Biol., Tokyo Metropolitan Univ., Setagaya-ku, TOKYO, Japan
- a. Electron-microscope observation of spermatozoa under various experimental conditions. (*Echinodermata*, *Mollusca* and *Annelida*)
- DAN, K. Ph.D. (Rigakuhakushi), Prof. — Embryol. Section, Dept of Biol., Fac. of Sci., Tokyo Metropolitan University, Setagaya-ku, TOKYO, Japan
- a. Research into causes of form change in early development, from pre-cleavage through metamorphosis. (*Echinoidea*)
- b. Birefringence studies of dividing eggs. (*Echinoidea*)
- c. Mitotic spindle isolation and analyse. (*Echinoidea*)
- d. Culture of neuroblasts. Mitosis. Species undecided (*Orthoptera*)
- D'ANCONA, U. Prof. — Ist. di Zool. e Anat. Comp., Fac. di Sci., Via Loredan 6, PADOVA, Italia
- a. Differentiation of the gonad. (*Vertebrata*, esp. *Pisces*)
- b. Embryology. (*Teleostei*, *Ganoidea* and *Amphibia*)
- DANKMEIJER, J. Med. Dr, Prof. — Anat.-Embryol. Lab. of the Univ. of Leyden, Fac. of Med., Wassenaarseweg, Boerhaavekwartier, LEIDEN, Holland
- a. Normal and abnormal development of the heart. *Homo* and other *Animalia* (in collaboration with J. A. LOS)
- b. Development of thyroid gland and teeth (investigations with radioactive isotopes)
- c. Development of uterus. *Homo* (*Primates*) (in collaboration with Miss A. DEKKER)
- d. Heart and vessels in congenital malformations. *Homo* (*Primates*) (in collaboration with H. A. SNELLEN)
- DAVIES, D. H. M.Sc. — Division of Fisheries, Beach Road, Sea Point, CAPE TOWN, South Africa
- a. Embryology. *Sardinops ocellata* (Pappe) (*Isospondyli*, *Neopterygii*)
- DAVIES, F. M.D., D.Sc., Prof. — Dept of Anat., Fac. of Med., Univ. of Sheffield, SHEFFIELD, England (U.K.)
- a. Histological studies of conducting system of the heart. (*Mammalia*) (in collaboration with E. T. B. FRANCIS, Dept of Zool.)
- DE, P. M.B.B.S. — Cell Research Unit., Chittaranjan Cancer Hospital, CALCUTTA 26, India
- a. Cell-chemistry of normal and carcinomatous cells. *Homo* (*Primates*) (in collaboration with S. MOOKERJEE)
- DE CESARE, Miss. I. Ph.D. — Ist. di Anat. Comp., Via Belmeloro 8, BOLOGNA (103), Italia
- a. Action of antimetotics on early development. (*Amphibia*) (in collaboration with P. PASQUINI)
- DEKKER, Miss A. Physician — Anat.-Embryol. Lab. of the Univ., Fac. of Med., Wassenaarseweg, Boerhaavekwartier, LEIDEN, Holland
- a. Development of the uterus. *Homo* (*Primates*) (in collaboration with J. DANKMEIJER)
- DELMAS, A. Prof. Agr. — Lab. des Travaux Anat., Fac. de Méd. Nouvelle, 43 Rue des St Peres, PARIS VIe, France

- a. Développement de l'encéphale. *Homo (Primates)*
 - b. Développement anormal de l'encéphale et des organes des sens. *Mus rattus (Rodentia)*
- DENT, J. N. A.B., Ph.D., Assoc. Prof. — Samuel Miller Biol. Labs, Univ. of Virginia, CHARLOTTESVILLE, Va, U.S.A.
- a. Uptake of certain radioisotopes by various embryonic regions. *Rana pipiens (Anura)*
- DENUCÉ, J. M. Lic.zool.sci. — Lab. voor Zool., Afd. Morphol., Universiteitstraat 14, GENT, België
(no data received on Nov. 1st, 1953)
- DEROUX, G. Lic.ès Sci. — Lab. d'Embryogénie comp., Coll. de France, Place Marcelin Berthelot, PARIS Ve, France
(no data received over some years)
- † DESCLAUX, P. Prof.agr. — Lab. d'Embryol., Fac. de Méd., 15 Rue Ecole de Méd., PARIS VIe, France
- DETWILER, S. R. Dr, Prof. — Dept of Anat., Coll of Physicians and Surgeons, Columbia Univ., 630 West 168th St, NEW YORK City, N.Y., U.S.A.
(no data received)
- DEUCHAR, Miss E. M. M.A., Ph.D. — Dept of Embryol., Univ. Coll. London, Gower St, LONDON W.C. 1, England (U.K.)
- a. Studies on amino acid composition of embryonic tissues. *Xenopus laevis*, *Discoglossus pictus*, *Ambystoma tigrinum (Amphibia)*
 - b. Attempted detection and identification of diffusible secretions from organizer tissue. *Xenopus laevis*, *Discoglossus pictus*, *Ambystoma tigrinum (Amphibia)*
- DEVILLERS, Ch. Dr ès Sci. — Lab. d'Embryogénie comp., Coll. de France, Place Marcelin Berthelot, PARIS Ve, France
(no data received over some years)
- DIDING, S. Fil. Lic. — Embryol. Dept, Zool. Inst. of the Univ. of Lund, LUND, Sweden
- a. Study of the embryology. (*Brachiopoda*)
- DIERCKS, Fr. — Lab. voor Zool., Afd. Morphol., Universiteitstraat 14, GENT, België
(no data received on Nov. 1st, 1953)
- DIJK, D. E. van B.Sc.Hon. (Zool.) — Zool. Inst., Univ. of Stellenbosch, STELLENBOSCH, South Africa
- a. Ontogenesis of the cloaca. (*Anura*)
- DINGER, Miss C. B.Sc. — Zool. Lab. der Rijks Univ., Janskerkhof 3, UTRECHT, Holland
- a. Analysis of lithium action. *Limnaea stagnalis (Gastropoda)* (in collaboration with W. J. van DONGEN, B. de GROOT, Miss H. E. van HEYNINGEN, C. R. JANSSEN and Chr. P. RAVEN)
- DODD, J. M. B.Sc., Ph.D. — Gatty Marine Lab., ST ANDREWS, Fife, Scotland (U.K.)
- a. Embryology with special reference to hybridisation. *Patella vulgata*, *athletica* and *intermedia (Prosobranchia, Gastropoda)*
 - b. A study of the developmental abnormalities which result from: 1. polyspermy, 2. unripeness of the genital products. *Patella vulgata*, *athletica* and *intermedia*, and *Patella pellucida (Prosobranchia, Gastropoda)*

- DOHRN, P. M.D., Ph.D. — Zool. Station, NAPLES, Italy
(no data received on Nov. 1st, 1953)
- DOHRN, R. Dr, Prof. — Zool. Station, NAPLES, Italy
(no data received)
- DOKTER, H. Med.Drs — Hubrecht Lab., Internat. Embryol. Inst., Janskerkhof 2, UTRECHT, Holland
— Anat.-Embryol. Lab., Free Univ., Pr. Hendriklaan 27, AMSTERDAM Z, Holland
- Homogenetic activation of competent ectoderm through neural tissue in explants. (*Urodela*)
 - Neural activation and transformation in the ectoderm around Hensen's node. *Gallus domesticus* (*Aves*)
- DOLLANDER, A. Dr, Agrégé — Lab. d'Histol., Dép. d'Embryol., Fac. de Méd., 31 Rue Lionnois, NANCY (Meurthe & Moselle), France
- Etude des propriétés mécaniques des différents éléments du cortex de l'oeuf. (*Amphibia*) (en collaboration avec Miss F. VIVIER)
 - Régulation de l'oeuf. (*Amphibia*)
 - Etude des propriétés de perméabilité du cortex de l'oeuf. (*Amphibia*) (en collaboration avec P. J. MELNOTTE)
 - Etude morphologique du cortex de l'oeuf au microscope optique et au microscope électronique. *Triturus alpestris* (*Amphibia*)
 - Structure du spermatozoïde au microscope optique et au microscope électronique. *Triturus*, *Pleurodeles* (*Amphibia*) (en collaboration avec Miss A. BARTHELEMY)
 - Action tératogène de l'urée. (*Amphibia*) (en collaboration avec R. MARCONNET)
 - Action de certaines substances chimiques sur les mouvements ciliaires et sur la motilité du spermatozoïde. (*Amphibia*) (en collaboration avec J. LOSSEROY)
- DONALDSON, J. C. Ph.B., M.D., Prof. — Dept of Anat., School of Med., Univ. of Pittsburgh, PITTSBURGH 13, Pa, U.S.A.
- Studies on the developing pancreas. *Homo* (*Primates*)
- DONGEN, W. J. van B.Sc. — Zool. Lab. der Rijks Univ., Janskerkhof 3, UTRECHT, Holland
- Analysis of lithium action. *Limnaea stagnalis* (*Gastropoda*) (in collaboration with Miss C. DINGER, B. de GROOT, Miss H. E. van HEYNINGEN, C. R. JANSSEN and Chr. P. RAVEN)
- DORP van VLIET, N.O. van B.Sc. — Zool. Lab. der Rijks Univ., Janskerkhof 3, UTRECHT, Holland
- Depolarization of the egg by calcium chloride. *Limnaea stagnalis* (*Gastropoda*)
- DOSSEL, W. E. A.B., M.S. — Dept of Biol., The Johns Hopkins Univ., Charles and 34th Sts, BALTIMORE 18, Md, U.S.A.
- Correlated cytological and physiological studies on the developing thyroids of normal and decapitated embryos. *Gallus domesticus* (various varieties) (*Aves*)
 - Ontogeny of pigment-forming enzyme systems in the skin. *Gallus domesticus* (various varieties) (*Aves*), *Rattus norvegicus* (albino and hooded) (*Rodentia*), *Mus musculus* (c-57 and albino) (*Rodentia*)

- DREISCHER, Miss H. Cand.rer.nat. — Zool. Inst. der Univ., Katharinenstr. 20, FREIBURG i. Brsg., Deutschland
- a. Eibildung bei Arbeiterinnen (Drohnenmütterchen). *Apis mellifica* (*Hymenoptera*) (gemeinsam mit M. SCHNETTER)
- DREYER, Miss M. V. B.Sc. — Dept of Zool., Univ. of O.F.S., BLOEMFONTEIN, South Africa
- a. The epithelio-neural bodies. *Gallus bankiva* (*Aves*)
- DUFFEY, L. M. — Dept of Zool., Indiana Univ., BLOOMINGTON, Ind., U.S.A.
- a. Physiology of development of the heart of the early embryo. *Gallus gallus* (*Aves*)
- DURANTE, Miss M. Dr — Ist. di Zool., Via Archirafi 18, PALERMO, Italia
- a. Xenoplastic gill transplantations. (*Amphibia*)
 - b. Xenoplastic limb transplantations. (*Amphibia*)
- DUSHANE, G. Ph.D. Yale 1934. Prof. — Dept of Biol., Stanford Univ., PALO ALTO, Cal., U.S.A.
- a. The regulation in size of spinal ganglia after removal of one-half of the primordium of the neural crest. *Ambystoma punctatum* (*Urodela*)
 - b. Pigmentary relations in transplantations between white and black animals. *Ambystoma mexicanum* (*Urodela*)
- DUYKER—De BEER, Mrs A. S. B.Sc. — Anat.-Embryol. Lab. der Rijks Univ., Oostersingel 69, GRONINGEN, Holland
- a. Development of paraphysis cerebri. *Scyllium canicula* (*Selachii*)
 - b. Development of paraphysis cerebri. *Xenopus laevis* (*Anura*)
- EAKIN, R. M. F.I.I.E., A.B., Ph.D., Prof. — Dept of Zool., Univ. of California, BERKELEY 4, Cal., U.S.A.
- a. Development of the pituitary. Study of independent or dependent differentiation of the partes buccales and pars nervosa of the pituitary. *Hyla regilla* (*Anura*)
- EALLES, Miss N. B. D.Sc. (London) — Dept of Zool., University, READING, Berkshire, England (U.K.)
- a. Foetal anatomy. *Monodon monoceros* (*Odontoceti, Cetacea*)
- EAYRS, J. T. B.Sc., Ph.D. — Dept of Anat., The Med. School, Birmingham Univ., Edgbaston, BIRMINGHAM 15, England (U.K.)
(no data received on Nov. 1st, 1953)
- EBERT, J. D. Ph.D., Asst Prof. — Dept of Zool., Indiana Univ., BLOOMINGTON, Ind., U.S.A.
- a. Biochemical and immunochemical analysis of the synthesis and distribution of the contractile proteins, actin and myosin, in the development of the heart in the early embryo. *Gallus gallus* (*Aves*) (in collaboration with R. TOLMAN)
 - b. Immunological studies of melanogenesis; immunochemical properties of the melanins, melanoproteins. The chemistry of the pigment-forming area in the early embryo. *Gallus gallus* (*Aves*)
 - c. Analysis of the effects of adult or late embryonic tissue transplants on homologous tissues of the host embryo. *Gallus gallus* (*Aves*)
 1. Effects on synthesis of desoxyribosenucleic acid and proteins. (in collaboration with J. F. ALBRIGHT)

2. Selective transfer of radioactivity from grafts to homologous host tissues. (in collaboration with A. M. MUN)
- EDDS, Jr, M. V. B.A., M.A., Ph.D. — Arnold Biol. Lab., Brown Univ., PROVIDENCE 12, R.I., U.S.A.
- Study of factors influencing the collateral regeneration of intact axons in partially denervated muscles. *Mus norvegicus albinus* (*Rodentia*)
 - Study of factors influencing the diameter of nerve fibers. *Mus norvegicus albinus* (*Rodentia*)
- EDE, D. A. B.Sc., M.S. — Inst. of Animal Genet., University Dept of Genetics, King's Buildings, West Mains Rd, EDINBURGH 9, Scotland (U.K.)
- Study of the developmental effects of embryonic lethal mutations. *Drosophila melanogaster* (*Diptera*)
 - Film: Embryonic development. *Drosophila melanogaster* (*Diptera*) (in collaboration with Miss S. J. COUNCE — Photography by E. C. A. LUCEY)
- EDGAR, G. W. F. Physician — Anat.-Embryol. Lab. der Rijks Univ., Janskerkhof 3, UTRECHT, Holland
- Investigations into the lipid changes in the central nervous system of the growing animal, compared with the normal and pathological development of the myelin sheath. *Lepus cuniculus* (*Rodentia*)
- EDWARDS, L. F. B.A., M.Sc., Ph.D., Prof. — Dept of Anat., Ohio State Univ., COLUMBUS 10, Ohio, U.S.A.
(no data received over some years)
- EDWARDS, R. G. B.Sc.Agric., B.Sc.Zool., Dip.Genet. — Inst. of Animal Genet., Univ. Dept of Genet., King's Buildings, West Mains Rd, EDINBURGH 9, Scotland (U.K.)
- Heteroploidy and parthenogenesis, operations on embryos. *Mus musculus* (*Rodentia*) and *Lepus cuniculus* (*Lagomorpha*)
- EEDEN, J. A. van Dr — Dept of Zool., Potchefstroom Univ., POTCHEFSTROOM, South Africa
- Ontogenesis of the skull and visceral muscles till the beginning of metamorphosis. *Xenopus laevis* (*Anura*) (Normal Table)
- EGMOND, Miss M. T. C. van M.Sc. — Hubrecht Lab., Internat. Embryol. Inst., Janskerkhof 2, UTRECHT, Holland
- Analysis of the autonomous (intrinsic) and dependent aspects in the development of organization patterns in the anterior portion of the nervous system. (*Urodela* and *Anura*)
 - The development of the ear. *Xenopus laevis* (*Anura*) (Normal Table)
- ELBERS, P. F. M.Sc. — Zool. Lab. der Rijks Univ., Janskerkhof 3, UTRECHT, Holland
- Electron microscopical investigation on differentiation, insemination, growth and differentiation of the egg. *Limnaea stagnalis* (*Gastropoda*)
- ELOFF, F. C. D.Sc. — Zool. Inst., Fac. of Sci., Univ. of Pretoria, PRETORIA, South Africa
- Further studies on the chondrocranium. *Galago senegalensis* (*Primates*)
- EL SHATOURY, H. B.Sc.Hon. (Cairo) — Inst. of Animal Genet., Univ. Dept of Genet., King's Buildings, West Mains Rd, EDINBURGH 9, Scotland (U.K.)

- a. Survey of pupal lethals. *Drosophila melanogaster* (Diptera)
 - b. Biological nature of neoplasms, *Drosophila* antibodies. *Drosophila melanogaster* (Diptera)
 - c. Post-embryonic development and behaviour of the blood-forming organs. *Drosophila melanogaster* (Diptera)
 - d. Application of immune reactions to determine invisible changes in non-metamorphic structures. *Drosophila melanogaster* (Diptera)
 - e. Gastric tumours and their relation to hormonal disturbances. *Drosophila melanogaster* (Diptera)
 - f. The growth- and moulting hormone. *Drosophila melanogaster* (Diptera)
- ELSHOUT, Miss A. M. Med.Dr. — Anat.-Embryol. Lab. of the Univ. of Leyden, Fac. of Med., Wassenaarseweg, Boerhaavekwartier, LEIDEN, Holland
(during the year 1952/'53 working in the U.S.A.)
- ENDO, Y. M.Sc. — Biol. Lab., Keio Univ., Hiyoshi, Kohoku, YOKOHAMA, Japan
- a. A chemical study of the processes of fertilization membrane formation. (*Echinoidea*)
 - b. Electron microscopical study of the fertilization membrane. (*Echinoidea*)
- ENGELBRECHT, D. van Z. M.Sc. — Zool. Inst., Univ. of Stellenbosch, STELLENBOSCH, South Africa
- a. Cranial ontogenesis. *Pyromelana* sp. (*Aves*)
- ENGLÄNDER, H. Dr med, et rer.nat. — Zool. Inst. der Univ. Köln, Kerpenerstr. 13, KÖLN-LINDENTHAL, Deutschland
- a. Regionalspezifische Induktion. (*Urodela*)
- ERENÇİN, Z. Med.Veter.Dr — Inst. of Histol. and Embryol., Veterinary Coll. of the Univ., ANKARA, Turkey
- a. Spermiogenesis by the hypervitaminosis E.
- ERKEL, G. A. van B.Sc. — Zool. Lab. der Rijks Univ., Janskerkhof 3, UTRECHT, Holland
- a. Influence of heat shock. *Limnaea stagnalis* (*Gastropoda*) (in collaboration with A. C. de ROON and A. M. STADHOUDERS)
- EVANS, H. J. Ph.D. — Dept of Zool., Syracuse Univ., SYRACUSE 10, N.Y., U.S.A.
- a. Action of cortisone on the developing embryo. *Gallus domesticus* (*Aves*)
- EYAL—GILADI, Mrs H. M.Sc., Ph.D. — Hebrew Univ., JERUSALEM, Israel
— Hubrecht Lab., Internat. Embryol. Inst., Janskerkhof 2, UTRECHT, Holland (until October 1953)
- a. Dynamic aspects of neural induction. (*Amphibia*)
- EYMANN, H. — Zool. Inst. der Univ. Bern, Sahlistr. 8, BERN, Schweiz
- a. Neuralchimären. *Triton* x *Bombinator* (*Amphibia*) (in Zusammenarbeit mit F. BALTZER)
- EYRIES, Ch. Dr en Méd. — Lab. des Travaux Anat., Fac. de Méd. Nouvelle, 43 Rue des St Peres, PARIS VIe, France
- a. Développement de l'encéphale et des nerfs craniens. *Homo* (*Primates*) (en collaboration avec R. BISS)
 - b. Oreille interne et complexe acoustico-facial. *Homo* (*Primates*) (en collaboration avec R. BISS)

- c. Rhombomerie. *Homo (Primates)* (en collaboration avec M. BISS—BEZINE et R. BISS)
- d. Origine du nerf pathétique. *Homo (Primates)* (en collaboration avec M. BISS—BEZINE et R. BISS)

FAASSEN, F. van — Anat.-Embryol. Lab., Free Univ., Pr. Hendriklaan 27, AMSTERDAM Z, Holland

- a. Teratogenetic effect of thyreoectomised pregnant animals on the developing embryo. *Rattus norvegicus albinus (Rodentia)* (in collaboration with J. LANGMAN)

FABER, J. B.Sc. — Hubrecht Lab., Internat. Embryol. Inst., Janskerkhof 2, UTRECHT, Holland

— Lab. for Comp. Physiol., State Univ. of Utrecht, Jan van Galenstr. 17, UTRECHT, Holland

- a. Preparing the catalogue of the Central Embryological Collection of slides and alc. material of the Hubrecht Laboratory. (*Anura*)
- b. Development of behaviour. *Triturus taeniatus, Ambystoma mexicanum (Urodela)*

FANKHAUSER, G. F.I.I.E., Ph.D., Prof. — Dept of Biol., Princeton Univ., PRINCETON, N.J., U.S.A.

- a. Cytological study of polyploidizing effect of heat and cold on fertilized eggs, and of parthenogenetic cleavage induced by heat and cold treatment of unfertilized eggs. *Triturus viridescens (Urodela)*
- b. Study of effects of triploidy on development of gonads. *Triturus viridescens (Urodela)*
- c. Study of the reactions of diploid and triploid larvae and metamorphosed animals to pituitary hormones. *Triturus viridescens (Urodela)*
- d. Thyroidectomy in diploid and triploid embryos. Effects of thiourea, etc. *Triturus viridescens, Eurycea bislineata (Urodela)*
- e. Study of progeny of triploid, tetraploid and other heteroploid individuals; their chromosome number, mortality, pathology etc. *Ambystoma mexicanum (Urodela)* (in collaboration with R. R. HUMPHREY)
- f. Studies on spontaneous haploidy and polyploidy. *Ambystoma mexicanum (Urodela)* (in collaboration with R. R. HUMPHREY)

FARINELLA—FERRUZZA, Mrs N. Dr — Ist. di Zool., Via Archirafi 18, PALERMO, Italia

- a. Xenoplastic tail transplantations. (*Amphibia*)

FAURÉ FREMIET, E. F.I.I.E., Dr, Prof. — Coll. de France, Place Marcelin Berthelot, PARIS Ve, France (no data received)

FAUTREZ, J. C. M.D., Prof., Member of the Royal Flemish Acad. of Sci. — Lab. of Anat., Fac. of Med., Univ. of Gent, Bylokekaai 1, GENT, Belgium

- a. Histophotometrical studies of DNA content in germs and tissues.

FAUTREZ—FIRLEFYN, Mrs N. J. — Lab. of Anat., Fac. of Med., Univ. of Gent, Bylokekaai 1, GENT, Belgium

- a. Cytochemical studies of embryonic development. *Artemia salina (Crustacea)*

FELDMAN, M. M.Sc., Ph.D. — Inst. of Animal Genet., Univ. Dept of Genet., King's Buildings, West Mains Rd, EDINBURGH 9, Scotland (U.K.)

— Dept of Zool., The Hebrew Univ., JERUSALEM, Israel

- a. Study on disaggregated cells of embryos. *Triton (Urodela)*
 1. The development of a tissue specific adhesiveness after reagggregation.
 2. Processes of induction in reagggregated cells.
- FELL, Miss H. B. F.I.I.E., Dr — Strangeways Research Lab., Wort's Causeway, CAMBRIDGE, England (U.K.)
 (no data received on Nov. 1st, 1953)
- FEREMUTSCH, K. Dr Med. — Hirnanat. Inst. der Psychiatr. Univ. klinik, Med. Fak., Waldau, BERN, Schweiz
- a. Endhirnentwicklung, speziell der Rinde und Bauplan. *Mus (Rodentia)*, *Homo (Primates)*
 b. Comparative development of the brain. *Cricetus auratus (Rodentia)*
 (in collaboration with F. STRAUSS)
- FERRIS, W. R. — Dept of Zool., Univ. of Chicago, CHICAGO 37, Ill., U.S.A.
- a. Electronmicroscopy.
- FICQ, Mrs A. A. Lic. 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, Pleurodeles (Urodela)*
 b. Application d'une méthode autoradiographique à l'étude du phénomène d'induction. *Ambystoma, Pleurodeles, Rana (Amphibia)*
- 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)*
- FISCHBERG, M. Dr Phil. (Zürich), M.A. (Oxford) — Dept of Zool. and Comp. Anat., Univ. Museum, OXFORD, England (U.K.)
 (no data received on Nov. 1st, 1953)
- FISCHER, D. — Dept of Zool., Univ. of Connecticut, STORRS, Conn., U.S.A.
- a. Excretion in embryos. *Gallus domesticus (Aves)* (in collaboration with H. CLARK)
- FISK, A. M.Sc. — St Mary's Hosp., Med. School, Norfolk Place, Paddington, LONDON W. 2, England (U.K.)
 (no data received over some years)
- FITZGERALD, L. R. Ph.D. — Univ. of Tennessee, Fac. of Biol. Sci., Med. Units Div., MEMPHIS 3, Tenn., U.S.A.
- a. Effects of temperature on neonates and development of thermo-regulatory mechanisms. *Mus musculus (Rodentia)*
 b. Metabolic characteristics of the neonatal period. *Mus musculus (Rodentia)*
- FLEXNER, L. B. B.S., M.D., Prof. — Dept of Anat., Univ. of Pennsylvania, School of Med., PHILADELPHIA 4, Pa, U.S.A.
- a. Enzyme activities in fetal liver and cerebral cortex. *Cavia cobaya (Rodentia)*
 b. Placental transfer using radioisotopes. *Cavia cobaya (Rodentia)*
- FONSECA SACARRÃO, G. da Dr Sc. — Museu e Lab. Zool. d. Fac. d. Ci., Univ. d. Lisboa, LISBOA, Portugal
 (no embryological work in progress for 1953)

- FONTANA, J. S. — Central de Investig., Minist. de Salud Públ. de la Nación, Bolívar 1128, BUENOS AIRES, Argentina
(no data received on Nov. 1st, 1953)
- FORD, P. B.Sc., Ph.D.(Lond.), F.R.S.C., Prof. — Dept of Zool., Univ. of British Columbia, VANCOUVER, B.C., Canada
- A study of nucleic acids in the blastoderm. *Gallus domesticus* (Aves)
 - The morphogenesis of the gastric gland. *Castor canadensis* Kuhl (Rodentia)
 - The development of the pronephros. *Onchorynchus* sp. (Aves)
- FOX, H. B.Sc., Ph.D. — Dept of Zool. and Comp. Anat., Univ. Coll. London, Gower St, LONDON W.C. 1, England (U.K.)
(no data received on Nov. 1st, 1953)
- FRANCESCHINI, M. M.D. — Inst. of human Anat., Fac. of Med., Corso Massimo d'Azeglio 52, TORINO, Italy
(no embryological work in progress)
- FRANCIS, E. T. B. B.Sc., Ph.D., Dr — Dept of Zool., Univ. of Sheffield, SHEFFIELD, England (U.K.)
- The development and histogenesis of the conducting system of the heart. *Ovis* (*Artiodactyla*) (in collaboration with F. DAVIES, Dept of Anat.)
- FRANÇOIS, Y. Lic. ès Sci. — Lab. d'Embryogénie comp., Coll. de France, Place Marcelin Berthelot, PARIS Ve, France
(no data received over some years)
- FRANK, G. H. M.Sc. — Zool. Inst., Univ. of Stellenbosch, STELLENBOSCH, South Africa
- Cranial ontogenesis. *Struthio* (Aves)
- FRASER, A. S. B.Sc., M.Sc., Ph.D. — Animal Genetics Section, C.S.I.R.O., Univ. of Sydney, SYDNEY, N.S.W., Australia
(no data received on Nov. 1st, 1953)
- FREMERY, Miss R. de B.Sc. — Hubrecht Lab., Internat. Embryol. Inst., Janskerkhof 2, UTRECHT, Holland
- Activation and transformation relations in the caudal portion of the neural plate and in the caudal archenteronroof. (*Urodela*)
 - The autonomous developmental potencies of the blastema in regenerating larval limbs. *Triturus taeniatus* (*Urodela*)
- FRIBERG, U. Med.kand. — Embryol. Dept, Histol. Inst., Karolinska Inst., Solnavägen 1, STOCKHOLM 60, Sweden
- Incorporation of sulphur in fetus. *Rattus norvegicus* and *Cavia cobaya* (*Rodentia*) (in collaboration with N. RINGERTZ)
- FRICK, H. Dr Med. — Dr Senckenberg. Anat. Inst., Med. Fak. der Univ., Ludwig Rehnstr. 14, FRANKFURT/Main-Süd, Deutschland
- Placenta. *Roussetus* and *Rhinolophus* (*Chiroptera*)
 - The development of the skull. *Myotis myotis* (*Microchiroptera*)
 - Die Entwicklung der Fenestra rotunda. (*Mammalia*)
- FROUD, M. D. B.Sc. — Wye Coll., Univ. of London, ASHFORD, Kent, England (U.K.)
- Variation in aortic arches in late embryos. *Gallus domesticus* (Aves)
 - Study of ductus arteriosus in relation to hatching. *Gallus domesticus* (Aves)

- GAILLARD, P. J. Med. Dr, Prof. — Lab. for Exper. Histol., Fac. of Med., Univ. of Leyden, Wassenaarseweg, Boerhaavekwartier, LEIDEN, Holland
- Developmental potencies of the fetal germinal epithelium in explants. *Homo (Primates)*
 - Primary genesis of thyroid follicles in explants and factors governing colloid formation. *Gallus domesticus (Aves)*
- GALINSKY, I. Dr — Dept of Pathol., Coll. of Med., Baylor Univ., 1200 M.D. Anderson Blvd, Texas Med. Center, HOUSTON 5, Tex., U.S.A. (no data received over some years)
- GALLERA, J. Ph.D. — Inst. d'Histol. et d'Embryol., Fac. de Méd., LAUSANNE, Suisse
— 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 (Aves)* (en collaboration avec J. A. BAUMANN)
 - Etude expérimentale sur le développement histogénétique du système nerveux. (*Amphibia*)
- GALLIEN, L. Dr ès Sci., Prof. — Lab. de Biol. anim. (P.C.B. section II), Fac. des Sci., Univ. de Paris, 12 Rue Cuvier, PARIS Ve, France (no data received on Nov. 1st, 1953)
- GEIGY-HEESE, R. Dr, Prof. — Schweiz. Tropeninst., Socinstr. 57 — Zool. Anstalt der Univ., Rheinsprung 9, BASEL, Schweiz
- Embryonale und postembryonale Entwicklung von Kopf und Darm. *Esox lucius (Teleostei)*
 - Endocrinologie der Metamorphose (Xenoplastische Transplantation induktiver Organe). (*Insecta*)
- GEILENKIRCHEN, W. L. M. M.Sc. — Zool. Lab. der Rijks Univ., Janskerkhof 3, UTRECHT, Holland
- Metabolism and respiration of egg and embryo. *Limnaea stagnalis (Gastropoda)*
- GENNARO, Jr, J. F. Ph.D. — Dept of Anat., Coll. of Med., State Univ. of New York, 350 Henry St, BROOKLYN 2, N.Y., U.S.A.
- Effects of radiation on tissues. (*Amphibia* and *Mammalia*)
- GILBERT, Miss C. M.Sc., D.Sc. (Rand) — Anat. Dept, Med. School, Univ. of Witwatersrand, Hospital Hill, JOHANNESBURG, S. Africa (no data received on Nov. 1st, 1953)
- GILLMAN, J. D.Sc., M.B., Ch.B. (Rand), Prof. — Physiol. Dept, Med. School, Univ. of Witwatersrand, Hospital Hill, JOHANNESBURG, S. Africa (no data received on Nov. 1st, 1953)
- GIRAUD, Miss D. Préparatrice Temp. — Lab. d'Embryogénie comp., Coll. de France, Place Marcelin Berthelot, PARIS Ve, France (no data received over some years)
- GIROUD, A. F.I.E.E., Prof. — Lab. d'Embryol., Fac. de Méd., 15 Rue Ecole de Méd., PARIS VIe, France
- Développement de l'encéphale et spécialement du diencéphale. Etude structurale en rapport avec l'apparition des fonctions, *Mus rattus (Rodentia)*
 - Recherches sur l'influence tératogène des avitaminoses maternelles. *Mus rattus (Rodentia)*

- c. Recherchus sur l'influence tératogène des intoxications maternelles. *Mus rattus* (*Rodentia*)
 - d. Etude des cas tératologiques individuels. *Homo* (*Primates*)
 - e. Développement anormal de l'oeil. *Mus rattus* (*Rodentia*)
- GLENISTER, T. W. M.B., B.S. — Anat. Dept, Charing Cross Hosp. Med. School, 62 Chandos Place, LONDON W.C. 2, England (U.K.)
- a. The development of the urethra. *Homo* and other spec. (*Mammalia*)
 - b. The early embryology. *Macrorhinus* spec. (*Pinnipedia*)
 - c. The development of the external form. (*Cervidae*)
- GLIMSTEDT, G. Med.Dr. Prof. — Tornblad-Inst. of comp. Embryol., Biskopsgatan 7, LUND, Sweden
(no data received on Nov. 1st, 1953)
- GLOOR, H. Ph.D., P.D. — Zool.-vergl. Anat. Inst., Naturwiss. Fak., Univ. Zürich, Künstlergasse 16, ZÜRICH 6, Schweiz
(no data received over some years)
- GODINA, G. Prof. — Inst. of human Anat., Corso Massimo d'Azeglio 52, TORINO, Italy
- a. Development of neurons and glia cells in the hippocampus cortex. *Ovis* (*Artiodactyla*)
 - b. Development of the regulatory mechanism of the blood flow in large arteries. *Sus scrofa* (*Artiodactyla*)
 - c. Researches on the differentiation and growth *in vitro* of the neurons of the embryonic nervous centers. *Gallus domesticus* (*Aves*)
- GODLEWSKI, H. G. Med.Dr — Inst. of Histol. and Embryol., Med. Acad., GDANSK, Poland
(no data received over some years)
- 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.
- a. Use of anti-vitamins (& anti-metabolites) in development. *Drosophila melanogaster* (*Diptera*)
 - b. Effects of cortisone on development. *Drosophila melanogaster* (*Diptera*)
 - c. Effect of anti-vitamins on reproduction. *Drosophila melanogaster* (*Diptera*)
 - d. Cortisone on developing bones and teeth. *Mus norvegicus* and *Rattus rattus* (*Rodentia*)
 - e. Effect of anti-vitamins on reproduction. *Mus norvegicus* and *Rattus rattus* (*Rodentia*)
- GONTCHAROFF, Miss M. Dr ès Sci. — Lab. d'Evolution des Etres organisés, Fac. des Sci. de Paris, 105 Boulevard Raspail, PARIS VIe, France
- a. Régénération du SNC et action de la lumière. *Lineus ruber*, *Lineus sanguineus* (*Nemertini*)
 - b. Régénération des yeux. *Lineus ruber* (*Nemertini*)
 - c. Développement post-larvaire. *Lineus ruber* (*Nemertini*)
- GOODHART, C. B. M.A., Ph.D. — Dept of Zool., Univ. of Cambridge, Downing Street, CAMBRIDGE, England (U.K.)
- a. Physiology of development. (*Vertebrata*)
 - b. Embryonic induction. *Triturus* (*Urodela*)
 - c. Cleavage of the egg cell. (*Invertebrata* and *Vertebrata*)

- GOSS, R. J. A.B., A.M., Ph.D. — Arnold Biol. Lab., Brown Univ., PROVIDENCE 12, R.I., U.S.A.
- Problem of inducing regeneration. *Rana (Anura)* and *Anolis (Lacertilia)*
- GÖSZWALD, K. Dr Phil., Dr habil.rer.nat., Prof. — Inst. für Angewandte Zool. der Univ., Naturw. Fak., Röntgenring 10, WÜRZBURG, Deutschland
- Embryologische Studien. *Formica rufa* u.a. (*Formicidae, Hymenoptera*)
 - Determination der Ameisen-Kasten. *Formica rufa, Lasius niger* u.a. (*Formicidae, Hymenoptera*)
 - Parthenogenese. (*Formicidae, Hymenoptera*)
 - Künstliche Begattung. (*Lepidoptera, Coleoptera* and *Hymenoptera*)
- GOTHIÉ, Miss M.M.C.S. M.D., Dr ès Sci. — Lab. d'Hormonol. et de Cytol., Ecole Pratique des Hautes Etudes, Hôpital Broca, 111 Rue L. M. Nordmann, PARIS XIII^e, France
- Etude des substances tensioactives sur la morphogenèse embryonnaire par microinjection dans de jeunes gastrulae. (*Amphibia*)
 - Etude des injections de noyaux et dérivés des nucléines dans de jeunes gastrulae. (*Urodela*)
 - Traceurs et spermatozoïdes. *Homo (Primates)*
 - Etude de la morphogenèse par les traceurs. *Mus musculus (Rodentia)*
 - Décoloration du dichlorophenol indophenol (DPIP) par l'ovocyte. Etude par micro-injection quantitative. *Mus musculus (Rodentia)* (en collaboration avec R. MORICARD et O. BAIOCCHI)
 - Utilisation des traceurs dans l'étude des corrélations unissant les gonadotrophines, le liquide folliculaire et la maturation ovulaire. *Mus musculus (Rodentia)* (en collaboration avec R. MORICARD)
- GOTO, T. M.A. — Biol. Lab., Keio Univ., Hiyoshi, Kohoku, YOKOHAMA, Japan
- Studies on the influence of the pterin substances upon development. *Bombyx mori (Lepidoptera)*, *Rana nigromaculata (Anura)*
 - Influence of the nucleoproteins upon early development. *Triturus pyrrhogaster (Urodela)* (in collaboration with T. HAMA)
- GOULD, R. P. B.Sc.Zool. — Biol. Dept, Middlesex Hospital, LONDON W. 1, England (U.K.)
- Cytoplasmic and nuclear relationships in blastoderms. *Gallus domesticus (Aves)*
- GOVAERT, J. — Lab. of Anat., Fac. of Med., Univ. of Gent, Bylokekaai 1, GENT, Belgium
- Embryology. *Fasciola hepatica (Trematoda)*
- GRABOWSKI, C. T. B.S., Western Reserve U., Cleveland, Ohio — Dept of Biol., The Johns Hopkins Univ., Charles and 34th Sts, BALTIMORE 18, Md, U.S.A.
- Experimental analysis of initiation and early development of the central nervous system. *Gallus domesticus (Aves)*
 - Role of Hensen's node in development. *Gallus domesticus (Aves)*
- GRANT, Ph. B.S., 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.
- Phosphate metabolism during regeneration. *Tubularia crocea (Hydroidea)*
 - Localization of phosphate turnover in development. *Rana pipiens (Anura)*

- GRAUMANN, W. Dr Med. — Anat. Inst. der Univ., Burgstr. 51, GÖTTINGEN, Deutschland
- Developmental histochemistry (esp. carbohydrate compounds). *Mus musculus*, *Mesocricetus auratus* (*Rodentia*)
- GREEN, Mrs E. U. Ph.D. — Lankenau Hospital Research Inst. and Inst. for Cancer Research, Burholme Ave, Fox Chase, PHILADELPHIA 11, Pa, U.S.A.
- Morphological, cytological and cytochemical studies of the effects of carcinogen-protein conjugates on cleavage and early development. *Rana* (*Anura*)
 - Nuclear constitution of mesenchymal cells and their derivatives. *Rana* (*Anura*)
- GREEN, S. H. M.B., Ch.B. — Dept of Anat., The Med. School, Birmingham Univ., Edgbaston, BIRMINGHAM, England (U.K.)
(no data received on Nov. 1st, 1953)
- GREGG, J. R. Ph.D. — Dept of Zool., Fac. of pure Sci., Columbia Univ., Broadway and 116 St, NEW YORK 27, N.Y., U.S.A.
- Metabolism of normal animals and hybrids. *Rana pipiens*, *Rana pipiens* x *Rana sylvatica* (*Anura*)
- GREULICH, R. C. B.A., Ph.D. — Dept of Anat., School of Med., Univ. of Calif., LOS ANGELES, Cal., U.S.A.
- The development of bones and teeth as shown by radioautographs of radio-carbon-labeled bicarbonate. (*Vertebrata*)
- GRIGNON, G. — Lab. d'Histol., Dép. d'Embryol., Fac. de Méd., 31 Rue Lionnois, NANCY (Meurthe & Moselle), France
- Développement de l'hypophyse. (*Aves*)
- GROBSTEIN, C. Ph.D. — Developm. Physiol. Unit., Nat. Cancer Inst., BETHESDA, Md, U.S.A.
- Morphogenesis and histogenesis of early rudiments *in vitro* and on reimplantation. *Mus musculus* (*Rodentia*)
 - Epithelio-mesenchymal inductive interactions in early rudiments. *Mus musculus* (*Rodentia*)
 - Time of cytodetermination in relation to morphogenetic and histogenetic events. *Mus musculus* (*Rodentia*)
- GRODZIŃSKI, Z. Prof. — Zakład Anat. Porównawczej U. J. im. H. Hoyera, św. Anny 6, KRAKOW, Poland
- Influence of temperature upon the isolated heart's rate of embryos. *Salmo* (*Teleostei*)
 - Development of the blood vessels in the tail of embryos. *Salmo* (*Teleostei*)
- GROOT, B. de B.Sc. — Zool. Lab. der Rijks Univ., Janskerkhof 3, UTRECHT, Holland
- Analysis of lithium action. *Limnaea stagnalis* (*Gastropoda*) (in collaboration with Miss C. DINGER, W. J. van DONGEN, Miss H. E. van HEYNINGEN, C. R. JANSSEN and Chr. P. RAVEN)
- GRUENWALD, P. M.D. — Beth-El Hospital, Linden Boulevard and Rockaway Parkway, BROOKLYN 12, N.Y., U.S.A.
- Embryonic development of selenium-induced malformations. *Gallus domesticus* (*Aves*)

- b. Systematic investigation of current cases of prenatal disease and malformation in autopsy material (Part of „Brooklyn Survey of Neonatal Pathology“). *Homo (Primates)*
- GRÜNEBERG, H. Ph.D., M.D., D.Sc. — Dept of Genetics, Univ. Coll. London, Gower St, LONDON W.C. 1, England (U.K.)
- a. Developmental genetics of the skeleton; effects of major genes; development and genetics of patch, a semi-dominant spotting gene with teratological effects in the homozygote. *Mus musculus (Rodentia)*
- GRÜNTHAL, E. Dr — Hirnanat, Inst. der Psychiatr. Univ. klinik, Med. Fak., Waldau, BERN, Schweiz
- a. Hirnentwicklung: Bauplan von Zwischenhirn und Endhirn. *Gallus (Aves)*, *Mus (Rodentia)* und *Homo (Primates)*
- GUARDABASSI, Miss A. Dr — Inst. of comp. Anat., Via Giovanni Giolitti 34, TORINO, Italy
- a. Study of the course and connections of the retinal fibers following rotation of the eye anlage. *Bufo vulgaris* and *Rana esculenta (Anura)*
- b. Autoplastic interchange of the eye anlagen (left to right and viceversa) to study the course and arrangement of the retinal fibers. *Rana esculenta*, *Bufo vulgaris (Anura)*
- c. Influence of thyroxine and thymus on lime sacs of tadpoles. *Rana dalmatina (Anura)*
- d. The development of the endolymphatic sac following thymus removal in tadpoles. *Xenopus laevis (Anura)*
- GUBBAY, Miss V. B.Sc.Hons. — Dept of Zool., Univ. of the Witwatersrand, Milner Park, JOHANNESBURG, South Africa
- a. Early embryology and placentation. *Eremitalpa granti (Insectivora)*
- GUSTAFSON, G. S. Fil.mag. — Zootom. Inst., Univ. of Stockholm, 116 Drottninggatan, STOCKHOLM, Sweden
- a. Ontogeny of the skull. (*Gadidae* and *Acanthopterygii. Teleostei*)
- GUSTAFSON, T. Fil.Dr — Wenner-Grens Inst. for experimental Biology, Norrtullsgatan 16, STOCKHOLM Va., Sweden
(no data received on Nov. 1st, 1953)
- GUYÉNOT, E. Dr Med., Dr Sci. — Inst. de Zool. et Anat. comp., Univ. de Genève, Rue de Candolle, GENÈVE, Suisse
(no data received over some years)
- GYLLENSTEN, L. J. W. Med.Dr. — Embryol. Dept, Histol. Inst., 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)*
- HAAS, G. — Zool. Inst. der Univ., Katharinenstr. 20, FREIBURG i. Brsg., Deutschland
- a. Entwicklung der Sehleistung. (*Lepidoptera; Culicidae, Diptera*) (gemeinsam mit H. LÜDTKE)
- HADORN, E. F.I.I.E., Dr Phil., Prof. — Zool.-vergl. Anat. Inst., Naturwiss. Fak., Univ. Zürich, Künstlergasse 16, ZÜRICH 6, Schweiz
(no data received over some years)

- HAFFEN, Miss K. Lic. ès Sci. — Lab. de Zool. de la Fac. des Sci. et Lab. d'Embryol. et Tératol. expér. du C.N.R.S., Inst. de Zool. et de Biol. gén., 12 Rue de l'Université, STRASBOURG, France
- Etude du développement et de la régression du mésonéphros. *Gallus (Aves)*
 - Recherches sur la différenciation *in vitro* des gonades embryonnaires. (*Aves*) (en collaboration avec Et. WOLFF)
 - Recherches sur les besoins nutritifs des gonades embryonnaires en culture *in vitro*. (*Aves*)
- HAGET, A. Dr ès Sci. — Lab. de Biol. Gén., Fac. des Sci. de Bordeaux, 40 Rue Lamartine, TALENCE (Gironde), France
- Analyse expérimentale de la morphogenèse embryonnaire de la tête. *Leptinotarsa (Coleoptera)*
- HAGGIS, A. J. B.A., M.S. — Dept of Biol., Coll. of Arts and Sciences, Univ. of Rochester, ROCHESTER 3, N.Y., U.S.A.
- Analysis of the determination of the olfactory placode. *Ambystoma punctatum (Urodela)*
- HAGQVIST, G. Prof. — Embryol. Dept, Histol. Inst., Karolinska Inst., Solnavägen 1, STOCKHOLM 60, Sweden
- Experimental polyploidy. (*Vertebrata*)
- HAGSTRÖM, B. E. B.A. — Wenner-Grens Inst. for experimental Biology, Norrtullsgatan 16, STOCKHOLM Va., Sweden
(no data received on Nov. 1st, 1953)
- HAINES, R. W. M.B., B.S., D.Sc. — Dept of Anat., Fac. of Med., Univ. of Sheffield, SHEFFIELD, England (U.K.)
- Study of hallux valgus. *Homo (Primates)*
 - Study of hand. (Primitive *Mammalia*)
- HÅKANSSON, R. Tandlakare — Tornblad-Inst. of comp. Embryol., Biskopsgatan 7, LUND, Sweden
(no data received on Nov. 1st, 1953)
- HALE, L. J. Ph.D. — Dept of Zool., Univ. of Edinburgh, West Mains Rd, EDINBURGH 9, Scotland (U.K.)
- The early development of the scleral bones, with special reference to the differentiation of the osteoblasts. *Gallus domesticus (Aves)*
- 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.
- Intrinsic contractility in the embryonic mammalian heart and its parts, and its modification by various experimental procedures. *Mus norvegicus albinus (Rodentia)*
- HALL, P. — Tornblad-Inst. of comp. Embryol., Biskopsgatan 7, LUND, Sweden
(no data received on Nov. 1st, 1953)
- HALL, T. S. Ph.D., Prof. — Dept of Zool., Washington Univ., Lindell and Skinker Aves, ST LOUIS 5, Mo., U.S.A.
(no embryological work in progress)
- HALLIDAY, R. B.Sc.(Wales) — Agricultural Research Council, Unit of Embryol., Dept of Zool., Univ. Coll. of North Wales, BANGOR, Caernarvonshire, N. Wales (U.K.)
- Immunological relations of mother and young. (*Mammalia*)

- HAMA, T. M.A., D.Sc., Asst Prof. — Biol. Lab., Keio Univ., Hiyoshi, Kohoku, YOKOHAMA, Japan
- Morphogenetical and chemical analysis of the organizer. *Triturus pyrrhogaster (Urodela)*
 - Studies on the influence of the pterins and their like upon development in various animals. (*Arthropoda, Pisces, Amphibia* etc.)
 - Influence of the nucleoproteins upon early development. *Triturus pyrrhogaster (Urodela)* (in collaboration with T. GOTO)
- HAMBURGER, V. F.I.I.E., Ph.D., Prof. — Dept of Zool., Washington Univ., Lindell and Skinker Aves, ST LOUIS 5, Mo., U.S.A.
- Neuro-embryology. *Gallus domesticus (Aves)* (in collaboration with Miss R. LEVI-MONTALCINI) *turus (Urodela)*
 - Effects of mouse sarcoma on growth *in vivo* and *in vitro*. *Tri-*
- HAMILTON, H. L. B.A., M.S., Ph.D., Prof. — Dept of Zool. and Entomol., Div. of Sci., Iowa State Coll., AMES, Iowa, U.S.A.
- Experiments on the visceral pouches to ascertain their derivatives. *Gallus domesticus (Aves)*
 - Factors influencing the differentiation of melanophores in tissue cultures. *Gallus domesticus (Aves)*
 - Studies on the relation of enzyme systems to morphogenesis. *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 (U.K.)
- Growth and atresia of the ovarian follicles. *Mustela putorius furo L. (Carnivora)* (in collaboration with R. J. HARRISON, London)
 - Placentation and changes in reproductive tract. (*Cervidae*) (in collaboration with R. J. HARRISON, London)
 - The development and structure of the placenta. *Home (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, SYRACUSE 10, N.Y., U.S.A.
- Development of the autonomic nervous system. *Gallus domesticus (Aves)* (in collaboration with C. L. YNTEMA)
 - Differentiation of sensory neurons. *Gallus domesticus (Aves)*
 - Development of the thymus. *Gallus domesticus (Aves)*
 - Development of the visceral skeleton. *Gallus domesticus (Aves)* (in collaboration with C. L. YNTEMA)
- HAMPÉ, A. Lic. ès Sci. — Lab. de Zool. de la Fac. des Sci. et Lab. d'Embryol. et Tératol. expér. du C.N.R.S., Inst. de Zool. et de Biol. gén., 12 Rue de l'Université, STRASBOURG, France
- Etude de la régulation des ébauches des membres. *Gallus gallus (Aves)*
- HANSON, Miss E. J. Ph.D. — M.R.C. Biophysics Res. Unit, King's Coll., Strand, LONDON W.C. 2, England (U.K.)
(no data received over some years)
- HARDER, W. Dr rer.nat. — Inst. für Fischereibiologie der Univ. Hamburg, Holstenwall 24, HAMBURG 36, Deutschland
- Postembryonale Entwicklung, insbesondere die Umwandlungen des Verdauungsapparates während der Metamorphose. Vergleichende Untersuchungen innerhalb einer Familie. *Clupea harengus, C. sprattus, C. pilchardus, Engraulis encrasicolus* u.a. (*Clupeidae, Teleostei*)

- b. Entwicklung der Körperform. *Clupea harengus* L. (*Teleostei*)
- c. Entwicklung der Respirationsorgane. *Clupea harengus* L. (*Teleostei*)
- HARDY, Miss M. H. M.Sc., Ph.D. — Div. of Animal Health and Production, C.S.I.R.O., McMaster Animal Health Lab., Parramatta Rd., Glebe, SYDNEY, N.S.W., Australia (Guest-worker from C.S.I.R.O., Wool Biol. Lab., 17 Randle St, SYDNEY, N.S.W.)
- a. Induction of hair follicle formation. *Mus musculus* and *Ovis* (*Mammalia*)
- b. Pigmentation processes in skin and hair in tissue culture. *Mus musculus* (*Rodentia*)
- c. Relation of dermis to epidermis in differentiation of skin and hairs by *in vivo* and *in vitro* techniques. *Mus musculus* (*Rodentia*)
- d. Analysis of causes of pattern and density of hair follicles in skin. *Ovis* (*Artiodactyla*)
- HARKMARK, W. Cand.Med. — Anat. Inst., Univ. of Oslo, OSLO, Norway
- a. Experimental investigation of factors influencing the morphogenesis of the inferior olive and pons. *Gallus domesticus* (*Aves*)
- HARRIS, J. E. M.A., Ph.D., Prof. — Dept of Zool., The University, BRISTOL 8, England (U.K.)
- 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.
- a. Growth factors in alcoholic extracts of embryos. *Gallus* (*Aves*)
- b. Interaction of nucleoprotein and dialysate growth factors in embryo extract. *Gallus* (*Aves*)
- HARRISON, R. G. F.I.I.E., M.D., Ph.D., Sc.D., L.L.D., 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*)
- HARRISON, R. G. M.A., D.M. — Dept of Anat., Univ. of Liverpool, LIVERPOOL, England (U.K.)
- a. The dependence of spermatogenesis on the vascularization of the testis. (*Mammalia*)
- b. The study of a presomite embryo showing an early stage of the secondary yolk-sac. *Homo* (*Primates*)
- HARRISON, R. J. M.A., D.Sc., M.B.B.Chir. — Anat. Dept, London Hosp. Med. Coll., Turner St, LONDON E. 1, England (U.K.)
- a. Early development. (*Mammalia*)
- b. Changes in the ovary. (*Mammalia*)
- c. Growth and atresia of the ovarian follicles. *Mustela putorius furo* L. (*Carnivora*) (in collaboration with W. J. HAMILTON)
- d. Placentation and changes in reproductive tract. (*Cervidae*) (in collaboration with W. J. HAMILTON)
- e. Changes in reproductive tract and placenta. (*Pinnipedia* and *Carnivora*) (in collaboration with L. HARRISON MATTHEWS)

- f. Distribution of radio-potassium in placenta and uterus. (*Rodentia* and *Carnivora*)
- HARRISON MATTHEWS, L. D.Sc. — c/o The Zool. Soc. of London, LONDON, England (U.K.)
- a. Changes in reproductive tract and placenta. (*Pinnipedia* and *Carnivora*) (in collaboration with R. J. HARRISON)
- HARTUNG, E. W. Ph.D. (Harvard Univ.), Assoc. Prof. — Dept of Zool., Univ. of Rhode Island, KINGSTON, R.I., U.S.A.
- 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*)
- HARTWIG, H. Dr. Phil. — Zool. Inst. der Univ. Köln, Kerpenerstr. 13, KÖLN-LINDENTHAL, Deutschland
(no data received on Nov. 1st, 1953)
- HARVEY, Mrs E. BROWNE F.I.I.E., A.B., M.A., Ph.D. — Dept of Biol., Princeton Univ., PRINCETON, N.J., U.S.A.
- a. Centrifuging eggs, and development of fractions obtained by centrifugal force. Parthenogenetic merogony or development without nuclei. (*Echino-dermata*)
- b. Monograph, including classified compilation of all experimental work. *Arbacia punctulata* (*Echinoidea*)
- c. Moving pictures of metamorphosis and of the natural history (in color). *Arbacia punctulata* (*Echinoidea*)
- d. Determination of sex by electrical method. *Arbacia punctulata* (*Echinoidea*)
- HARVEY, E. B. B.S., M.A. — Dept of Zool., Univ. of Calif., BERKELEY 4, Cal., U.S.A.
- a. Placentation. *Ochotonidae* and *Aplodontidae* (*Rodentia*)
- HAYASHI, Y. M.A. (Rigakushi) — Biol. Inst., Fac. of Sci., Nagoya Univ., Chigusa-Ku, NAGOYA, Japan
- a. Regional induction through heterogeneous inductors. *Triturus pyrrhogaster* (*Amphibia*)
- b. Biochemical and histological studies of oogenesis. *Triturus pyrrhogaster* (*Amphibia*) (in collaboration with S. OSAWA)
- HEATH, H.D. Ph.D. — Dept of Biol. Sci., Stanford Univ., STANFORD, Cal., U.S.A.
- a. Blastema formation in limb regeneration. (*Amphibia*)
- b. Size-regulation in grafted eyes. (*Amphibia*)
- HEAYSMAN, Miss J. E. M. B.Sc., Ph.D. — Dept of Embryol., Univ. Coll. London, Gower St, LONDON W.C. 1, England (U.K.)
- a. Cinematographic study of cell relations in tissue culture. *Gallus domesticus* (*Aves*) (in collaboration with M. ABERCROMBIE)
- HECKERMAN, R. O. M.S. — Univ. of Pittsburgh, PITTSBURGH, Pa. U.S.A.
(no data received over some years)
- HEILBRUNN, L. V. Ph.D., Prof. — Dept of Zool., Univ. of Pennsylvania, PHILADELPHIA 4, Pa, U.S.A.
(no data received over some years)
- HEIM, W. G. A.B., M.S. — Dept of Zool., Univ. of Calif., LOS ANGELES 24, Cal., U.S.A.
- a. Electrophoresis of serum of developing embryo. *Gallus domesticus* (*Aves*)

- HEIMANN, H. Dr Med. — Hirnanat. Inst. der Psychiatr. Univ.-klinik, Med. Fak., Waldau, BERN, Schweiz
- a. Endhirnentwicklung. (*Teleostei*)
- HEMMINGS, W. A. B.A. — Agricultural Research Council, Unit of Embryol., Dept of Zool., Univ. Coll. of North Wales, BANGOR, Caernarvonshire, N. Wales (U.K.)
- a. Study of the immunological relations of mother and fetus. (*Mammalia*)
- HENDERSON—PHILLIPS, Mrs M. B.Sc., Ph.D. — Dept of Zool., Univ. Coll. of North Wales, BANGOR, Caernarvonshire, N. Wales (U.K.) (no data received on Nov. 1st, 1953)
- HENKE, K. F.I.I.E., Dr Phil., Prof. — Zool. Inst. der Univ. Göttingen, Mathem.-Naturw. Fak., Bahnhofstr. 28, GÖTTINGEN, Deutschland
- a. Embryonale und post-embryonale Entwicklungsgeschichte. *Carausius morosus* (*Phasmida*, *Insecta*), *Corixa spec.* (*Hemiptera*) (mit Mitarbeitern)
- b. Entwicklungsphysiologie. *Drosophila mel.* (*Diptera*), *Ephestia künniella* (*Lepidoptera*), *Anas boschas* (*Aves*) (mit Mitarbeitern)
- c. Genetik. *Drosophila mel.* (*Diptera*), *Ephestia künniella* (*Lepidoptera*) (mit Mitarbeitern)
- HENLEY, Miss C. M.A., Ph.D. — Dept of Zool., Univ. of North Carolina, CHAPEL HILL, N.C., U.S.A.
- a. Effects of radio-isotopes on mitosis. *Ambystoma maculatum* (*Urodela*) and *Chaetopterus pergamentaceus* (*Annelida*) (in collaboration with D. P. COSTELLO and D. E. KENT)
- HENZEN, W. — Zool. Inst. der Univ. Bern, Sahlistr. 8, BERN, Schweiz
- a. Augenentwicklung und Epidermiserivate der Mundregion in Chimären. *Triton x Bombinator* (*Amphibia*) (in Zusammenarbeit mit F. BALTZER)
- HERLANT—MEEWIS, Mrs H. Dr Zool. — Lab. de Zool., Fac. des Sci., Inst. de Zool. Torley-Rousseau, Univ. libre de Bruxelles, 50 Avenue F. D. Roosevelt, BRUXELLES, Belgique (no data received over some years)
- HERMANN, G. — Zool. Inst. der Univ., Katharinenstr. 20, FREIBURG i. Brsg., Deutschland
- a. Entwicklung der Sehleistung. *Mus rattus* (*Rodentia*) (gemeinsam mit H. LÜDTKE)
- HERMANN, H. Dr. Prof. — Div. of Chem. Embryol., Med. Center, Univ. of Colorado, 4200 East Ninth Ave, DENVER 20, Col., U.S.A.
- a. Chemistry of muscle differentiation. *Gallus* (*Aves*) (in collaboration with I. R. KÖNIGSBERG and L. LERMAN)
- b. Study of differentiation of somites in explants (Spratt technique). *Gallus* (*Aves*) (in collaboration with U. ROTHFELS)
- c. 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 U. ROTHFELS)
- HERTIG, A. T. B.S., M.D., Prof. — Harvard Univ. Med. School, Dept of Pathol., 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.

- a. Development of ova from fertilization to 14 days (first missed menstrual period). *Homo (Primates)* (in collaboration with J. ROCK, W. J. MULLIGAN and Eleanor C. ADAMS)
- HEUSER, C. H. F.I.I.E., Prof. — Dept of Micr. Anat., Med. Coll. of Georgia, AUGUSTA, Ga, U.S.A.
- a. The first three weeks of development (Horizons I to X). *Homo (Primates)*
- b. Development of the yolk sac. *Homo (Primates)*
- HEYN, C. B. M.B. — Anat.-Embryol. Lab. of the Univ., Fac. of Med., Wassenaarseweg, Boerhaavekwartier, LEIDEN, Holland
(no data received over some years)
- HEYNINGEN, Miss H. E. van B.Sc. — Zool. Lab. der Rijks Univ., Janskerkhof 3, UTRECHT, Holland
- a. Analysis of lithium action. *Limnaea stagnalis (Gastropoda)* (in collaboration with Miss C. DINGER, W. J. van DONGEN, B. de GROOT, C. R. JANSSEN and Chr. P. RAVEN)
- HIGHNAM, K. C. M.Sc. — Dept of Zool., Univ. of Sheffield, SHEFFIELD, England (U.K.)
- a. Influence of hormones on metamorphosis. (*Lepidoptera*)
- HILL, J. P. F.I.I.E., F.R.S., Prof. (Emer.) — Dept of Embryol., Univ. Coll. London, Gower St, LONDON W.C. 1, England (U.K.), Private addr.: „Kanimbla“, Dollis Ave, Finchley, LONDON N. 3, England (U.K.)
- a. Studies in development, especially placentation. (*Mammalia*)
- b. Development of neural crest. (*Aves* and *Mammalia*)
- HILLEMANN, H. H. B.S., M.A., Ph.D. — Dept of Zool., Oregon State Coll., CORVALLIS, Ore., U.S.A.
- a. The pattern of circulation in the placenta. *Mesocricetus auratus (Rodentia)*
- b. Ossification and calcification from postnatal day 8 to the adult condition. *Mesocricetus auratus (Rodentia)*
- c. Flame photometric analysis for Na, K and Ca from birth to the adult condition. *Mesocricetus auratus (Rodentia)*
- d. Glycogen studies in the fetal liver (and other tissues). *Mesocricetus auratus (Rodentia)*
- e. The use of organic chelating agents in the histological study of bone and teeth. *Cavia porcellata (Rodentia)*
- f. The histology of the isthmus and uterus in relation to egg shape and egg rotation. *Gallus domesticus (Aves)*
- g. The differentiation of the cerebellum following experimental lesions to the metencephalon. *Gallus domesticus (Aves)*
- HILLER, S. M.D. — Inst. of Histol. and Embryol., Med. Acad., GDAŃSK, Poland
(no data received over some years)
- HINTZSCHE, E. Dr Med., Prof.ord. — Anat. Inst., Bühlstr. 26, BERN, Schweiz
- a. Anorganischer Stoffwechsel, Fermentchemische Untersuchungen. *Homo* and other spec. (*Mammalia*)
- b. Experimentelle Studien über Zellvermehrung in Gewebekulturen. Einwirkung fördernder und hemmender Substanzen. *Gallus (Aves)*, *Oryctolagus cuniculus (Lagomorpha)*, *Homo (Primates)*

- HIRATA, A. A. A.B., M.S. (Duke Univ.) — Dept of Zool., Univ. of Calif., LOS ANGELES 24, Cal., U.S.A.
- Stability of cellular particulates in developing tissues and in neoplasms. (*Aves* and *Mammalia*) (in collaboration with A. M. SCHECHTMAN)
- HISHIDA, T. M.A. (Rigakushi) — 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)
- HJELMMAN, G. M.D., Prof. — Dept of Anat., Fac. de Med., Univ. of Helsinki, HELSINKI, Finland
(no data received on Nov. 1st, 1953)
- HOFF-JÖRGENSEN, E. Dr. Phil. — Inst. of Biochem., Fac. of Med., Univ. of Copenhagen, Juliane Mariesvej 30, COPENHAGEN Ø, Denmark
- Determination of desoxyribonucleic acid in eggs and embryos, evidence of cytoplasmic desoxyribosides. (*Amphibia*) (in collaboration with E. ZEUTHEN)
- HOFFMAN, H. A.B., M.S. — Dept of Zool., Univ. of California, LOS ANGELES 24, Cal., U.S.A.
(no data received on Nov. 1st, 1953)
- HOGEWONING, C. H. — Lab. for Exper. Histol., Fac. of Med., Univ. of Leyden, Wassenaarseweg, Boerhaavekwartier, LEIDEN, Holland
- Influence of estrogens on the development and calcification of embryonic endosteal tissue *in vitro*. *Gallus domesticus* (*Aves*)
 - Influence of vitamine D₃ on the development and calcification of endosteal bone and cartilage *in vitro*. *Gallus domesticus* (*Aves*)
- HOGUE, Miss M. J. A.B., Ph.D., Assoc.Prof. — Dept of Anat., School of Med., Univ. of Pennsylvania, PHILADELPHIA 4, Pa, U.S.A.
- Study of neurons and glia cells from the different parts of the brain, especially from the cerebellum of human fetuses, newborn babes and adult humans. *Homo sapiens* (*Primates*)
- HOLM, K. Å. Fil.Dr — Zool. Inst., Uppsala Univ., UPPSALA, Sweden
- Experimental investigation of the embryo (determination, prospective significance of embryonic areas). (*Araneae*, *Arachnoidea*)
- HOLMDAHL, D. E. F.I.I.E., Med.Dr. Prof. — Anat. Inst., Univ. Uppsala, UPPSALA, Sweden
- Untersuchungen über die frühe Körperentwicklung. (*Vertebrata*)
 - Rückenmarkentwicklung. (*Vertebrata*)
 - Neuralleistenentwicklung und Mesenchymbildung. (*Vertebrata*)
 - Entwicklung der Blutgefäße und des Blutes. (*Vertebrata*)
 - Spina Bifida-Genese. (*Vertebrata*)
 - Teratomgenese. (*Vertebrata*)
 - Probleme der Körperentwicklung. (*Amniota*)
 - Morphogenese des Plexus chorioideus. (*Vertebrata*)
- HOLMGREN, N. F. Dr Sc., Prof. (Emer.) — Zootom. Inst., Univ. of Stockholm, 116 Drottninggatan, STOCKHOLM, Sweden
- Origin of tetrapods; the limb problem. (*Tetrapoda*)
 - The wing problem. (*Aves*)

- HOLTER, H. Ph.D. — Cytochem. Dept, Carlsberg Lab., 8 Gl. Carlsbergvej, COPENHAGEN Valby, Denmark
- Enzyme development in embryos. (*Echinodermata*)
 - Cytochemistry. (*Protozoa*)
- HOLTFRETER, J. K. F. F.I.I.E., Ph.D., Prof. — Dept of Biol., Coll. of Arts and Sciences, Univ. of Rochester, ROCHESTER 3, N.Y., U.S.A.
- Effects of X-rays on some embryological processes. *Ambystoma punctatum* and *Rana pipiens* (*Amphibia*)
- HOLTZER, H. Ph.D. — Dept of Anat., School of Med., Univ. of Pennsylvania, PHILADELPHIA 4, Pa, U.S.A.
- Role of spinal cord in the morphogenesis of the vertebral column. *Ambystoma* (*Urodela*)
 - Factors influencing the organization of the neural action systems in the brachial spinal cord. *Ambystoma* (*Urodela*)
 - Role of the spinal cord in tail regeneration. *Ambystoma* (*Urodela*)
- HONIO, Miss B. — Dept of Zool., Univ. of Connecticut, STORRS, Conn., U.S.A.
- Placental function. *Thammophis s. sirtalis* (*Serpentes*) (in collaboration with H. CLARK)
- HOOKER, D. Ph.D., Sc.D.(Hon.), Prof. — Dept of Anat., School of Med., Univ. of Pittsburgh, PITTSBURGH 13, Pa, U.S.A.
- Study of the physiological responses of fetuses. *Homo* (*Primates*)
 - Study of the reactivity of the fetus to exteroceptive stimulation. *Homo* (*Primates*)
- HORN, E. C. B.S., A.M., Ph.D., Prof. — Dept of Zool., Duke Univ., DURHAM, N.C., U.S.A.
- Organogenesis during development and changes at metamorphosis. *Ichthyomyzon* (*Cyclostomata*)
 - Tail regeneration in *Ammocoetes*. *Ichthyomyzon* (*Cyclostomata*)
- HÖRSTADIUS, S. F.I.I.E., Fil.Dr, Prof. — Zool. Inst., Uppsala Univ., UPPSALA, Sweden
- Determination in the egg: Analysis of the gradients and the processes behind them. (*Echinoidea*)
 - Determination within the head. *Ambystoma* (*Urodela*)
- HOWORKA, E. I. M.D., Ph.D. — Klinika Ginekologiczna Poznań, Polna 33, POZNAN, Poland
(no data received over some years)
- HUBER, W. Dr ès Sci. — Lab. de Zool. de la Fac. des Sci. et Lab. d'Embryol. et Tératol. expér. du C.N.R.S., Inst. de Zool. et de Biol. gén., 12 Rue de l'Université, STRASBOURG, France
- Développement de la tête. Etude morphologique et expérimentale de développement de la forme encéphalique en rapport avec le crâne; courbure et redressement de la tête; position des yeux. Analyse de races à forme encéphalique aberrante. *Gallus domesticus* (*Aves*)
- HUBL, H. Dr rer.nat. — Zool. Inst. der Univ., Naturw. Fak., Röntgenring 10, WÜRZBURG, Deutschland
- Einfluss des Colchicins auf die Regeneration. *Lumbricus* und *Tubifex* (*Oligochaeta*)
 - Untersuchungen über die neurosekretorischen Zellen im Gehirn und deren Einfluss auf die Regeneration. (*Lumbricidae*, *Oligochaeta*)

- c. Weitere Untersuchungen über die Beziehungen zwischen Nervensystem und Regeneration. (*Lumbricidae, Oligochaeta*)
- HUBLÉ, J. Lic. Zool. — Afd. Morphol., Lab. voor Zool., Universiteitstr. 14, GENT, België
(no data received over some years)
- HUGOSSON, R. Med.kand. — Tornblad-Inst. of comp. Embryol., Biskopsgatan 7, LUND, Sweden
(no data received on Nov. 1st, 1953)
- HULTIN, J. M. T. Fil.lic. — Wenner-Grens Inst. for experimental Biology, Norrtullsgatan 16, STOCKHOLM Va., Sweden
(no data received on Nov. 1st, 1953)
- HUMPHREY, R. R. F.I.I.E., A.M., Ph.D., Prof. — Dept of Anat., School of Med., Univ. of Buffalo, 3435 Main St, BUFFALO 14, N.Y., U.S.A.
- Studies on spontaneous haploidy and polyploidy. *Ambystoma mexicanum* (*Urodela*) (in collaboration with G. FANKHAUSER)
 - The offspring of polyploids; their chromosome number, mortality, pathology etc. *Ambystoma mexicanum* (*Urodela*) (in collaboration with G. FANKHAUSER)
 - Matings especially of dark 2n x white 2n to obtain haploids (white) to determine whether they are androgenetic or gynogenetic. *Ambystoma mexicanum* (*Urodela*)
 - Triploid, tetraploid and other heteroploid females are mated with 2n males, and the offspring studied. *Ambystoma mexicanum* (*Urodela*)
 - Genetic factors in metamorphosis. *Ambystoma mexicanum* (*Urodela*)
 - Modification of a lethal trait by the genotype of the mother. *Ambystoma mexicanum* (*Urodela*)
 - Modification in a lethal trait permitting survival of homozygotes which commonly die. *Ambystoma mexicanum* (*Urodela*)
- HUMPHREY, Miss T. M.D., Ph.D. — Dept of Anat., School of Med., Univ. of Pittsburgh, PITTSBURGH 13, Pa, U.S.A.
- Further studies on the descending root fibers of the trigeminal nerve in embryos during 7.5 to 8.5 weeks age period. Morphological study based on serially sectioned, pyridine silver impregnated embryos. Correlation of the anatomical findings on embryos with neurological observations and neurosurgical procedures. *Homo* (*Primates*)
 - Pancreatic developmental studies. *Homo* (*Primates*)
 - Diplomyelia in embryos: cases with one spinal cord located dorsal to the other. *Homo* (*Primates*)
- HUNT, E. L. Ph.D., Prof. — Dept of Biol., Emory Univ., ATLANTA, Ga, U.S.A.
- Studies on the distribution of certain radio-isotopes in the embryo. *Gallus* (*Aves*)
 - Studies on the distribution of radio-iodine. (*Amphibia*)
- HYLBOM, J. R. Fil.mag. — Zootom. Inst., Univ. of Stockholm, 116 Drottninggatan, STOCKHOLM, Sweden
- Development of larvae including metamorphosis. *Philidium* (*Nemertini, Plathelminthes*)
- ICHIKAWA, A. Rigakushi (M.S.), Rigakuhakushi (Dr), Prof. — Zool. Inst., Fac. of Sci., Hokkaido Univ., North 8, West 5, SAPPORO, Japan
(no data received on Nov. 1st, 1953)

- ICHIKAWA, M. Ph.D., Prof. — Lab. of Embryol. and Exp. Morphol., Zool. Inst., Dept of Sci., Kyoto Univ., KYOTO, Japan
- Hormonal mechanism of metamorphosis. *Bombyx mori*, *Luehdorfia japonica*, *Philosamia cynthia ricini* (Lepidoptera) (in collaboration with co-workers)
 - Regeneration of limb. (Amphibia)
- IKUSHIMA, N. — Lab. of Embryol. and Exper. Morphol., Zool. Inst., Dept of Sci., Kyoto Univ., KYOTO, Japan
- Redoxpotential of early embryo. *Triturus pyrrhogaster* and *Rhacophorus schlegelii* (Amphibia)
 - Regional specificity of the inductive faculty of the organizer.
- IMBRIANO, O. — Central de Investig., Minist. de Salud Públ. de la Nación, Bolivar 1128, BUENOS AIRES, Argentina
(no data received on Nov. 1st, 1953)
- IMMERS, J. Mag.rer.nat. — Wenner-Grens Inst. for experimental Biology, Norrtullsgatan 16, STOCKHOLM Va., Sweden
(no data received on Nov. 1st, 1953)
- INCE, Miss F. E. M.Sc. — Dept of Zool., Bedford Coll., Regent's Park, LONDON N.W. 1, England (U.K.)
(no data received on Nov. 1st, 1953)
- ISHIKAWA, M. M.A. (Rigakushi) — The Sugashima Marine Biol. Stat., Nagoya Univ., SUGASHIMA-MURA, Shima-gun, Mie-ken, Japan
- Physiological studies on fertilization and parthenogenesis. *Hemicentrotus pulcherrimus*, *Pseudocentrotus depressus* (Echinoidea) (in collaboration with M. SUGIYAMA)
- ISINGS, J. M.Sc. — Vezel Inst. T.N.O., Mijnbouwstraat 16a, DELFT, Holland
- Cytochemistry of hair development. (Mammalia)
 - Physiology and endocrinology of hair development. *Cavia cobaya* Marcor and *Mus musculus* (Rodentia)
 - Investigation of hair development by means of radioautography. *Mus musculus* and *Cavia cobaya* Marcor (Rodentia)
- JACOBSON, A. A.B. — Dept of Biol. Sci., Stanford Univ., STANFORD, Cal., U.S.A.
- Experiments on development of the optic vesicle. (Amphibia)
- JAFFE, L. F. B.S. — Dept of Embryol., Div. of Biol., Calif. Inst. of Technol., PASADENA 4, Cal., U.S.A.
- Study of spawning stimuli. *Pelvetia fastigiata*, *Hesperophycus harveyanus* (Fucales, Algae)
 - Using developing eggs, search for gradient in CO₂ output. *Pelvetia fastigiata*, *Hesperophycus harveyanus* (Fucales, Algae)
- JAGER, B. de M.Sc. — Division of Fisheries, Beach Road, Sea Point, CAPE TOWN, South Africa
- Embryology. *Thyrsites atun* (Euphr.) (Scombroidea, Neopterygii)
- JÄGERSTEN, K. G. M. Fil.Dr, Prof. — Zool. Inst., Uppsala Univ., UPPSALA, Sweden
- Larval development. (Polychaeta)
- JANOSKY, L. A.B. — Dept of Anat., Med. School, Univ. of Kansas, LAWRENCE, Kansas, U.S.A.
- Histochemical localization of glycogen associated with the central nervous system in developmental behaviour. *Ambystoma maculatum* (Urodela) (in collaboration with E. WENGER and P. ROOFE)

- JANSEN, J. M.D. — Anat. Inst., Univ. of Oslo, OSLO, Norway
 a. Morphogenesis of the rhombencephalon. *Balaenoptera physalus* (Cetacea)
 b. Development of the rhombencephalic nuclei. *Balaenoptera physalus* (Cetacea)
- JANSSEN, C. R. B.Sc. — Zool. Lab. der Rijks Univ., Janskerkhof 3, UTRECHT, Holland
 a. Analysis of lithium action. *Limnaea stagnalis* (Gastropoda) (in collaboration with Miss C. DINGER, W. J. van DONGEN, B. de GROOT, Miss H. E. van HEYNINGEN and Chr. P. RAVEN)
- JOHNELS, A. G. Phil.Dr — Zootom. Inst., Univ. of Stockholm, 116 Drottninggatan, STOCKHOLM, Sweden
 a. Development and morphology of the skeleton of the head. (*Dipnoi, Siluridae* and *Teleostei*)
- 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*)
- JOHNSON, F. R. M.D., B.Ch., B.A.O. — Dept of Anat., Fac. of Med., Univ. of Sheffield, SHEFFIELD, England (U.K.)
 a. Functional histology of urinary passages of kidney. (*Mammalia*)
 b. Histochemical studies of various tissues. (*Mammalia*)
- JONES, B. M. D.Sc. — Dept of Zool., Univ. of Edinburgh, West Mains Rd, EDINBURGH 9, Scotland (U.K.)
 (no data received on Nov. 1st, 1953)
- JORDAN, H. Ph.D., M.S., M.A., Prof. — Lab. of Histol. and Embryol., Dept of Anat., Coll. of Med., Univ. of Vermont, BURLINGTON, Vt, U.S.A.
 (no data received over some years)
- JOST, A. D. Dr Sc., Prof. — Lab. de Biol. anim., du P.C.B., Fac. des Sci., Univ. de Paris, 7 Rue Cuvier, PARIS Ve, France
 Developmental physiology of the fetus, and fetal endocrinology. *Oryzotolagus cuniculus* (*Lagomorpha*), *Mus rattus* (*Rodentia*):
 a. Hormonal control of sex differentiation (gonads, hypophysis).
 b. Physiology of the fetal hypophysis, thyroid, adrenals.
 c. Sexual differentiation studied *in vitro* (organ culturing experiments).
 d. Production of limb abnormalities by hormonal treatment. The problem of congenital amputations.
- KAJISHIMA, T. Rigakushi — Biol. Inst., Fac. of Sci., Nagoya Univ., Chigusa-Ku, NAGOYA, Japan
 a. Experimental studies on the mechanism of a blastoderm differentiation. (*Crustacea*)
 b. Histochemical investigation on the mosaic eggs. (*Crustacea*)
- KÄLIN, J. Prof. — Zool.-vergl.-anat. Inst. der Univ., FREIBURG, Schweiz
 (no data received on Nov. 1st, 1953)
- KALK, Mrs M. J. B.Sc. (London) — Dept of Zool., Univ. of the Witwatersrand, Milner Park, JOHANNESBURG, South Africa
 a. An investigation into the biochemical ontogeny of muscle by an immunological technique. *Xenopus laevis* (*Anura*)
- KÄLLÉN, B. Docent — Tornblad-Inst. for comp. Embryol., Biskopsgatan 7, LUND, Sweden
 (no data received on Nov. 1st, 1953)

- KAMER, J. C. v. d. Dr Sc. — Zool. Lab. der Rijks Univ., Janskerkhof 3, UTRECHT, Holland
- Normal development and cytology of the pineal region. *Torpedo ocellata* and *Torpedo marmorata* (*Selachii*)
 - Normal development and cytology of the saccus vasculosus. *Scyllium stellare* and *Scyllium canicula* (*Selachii*)
 - Normal development and cytology of the pineal region. *Crocodylus vulgaris* (*Reptilia*)
- KANOHI, Y. Rigakushi (M.S.), Asst Prof. — Zool. Inst., Fac. of Sci., Hokkaido Univ., North 8, West 5, SAPPORO, Japan
(no data received on Nov. 1st, 1953)
- KARCZMAR, A. G. Ph.D. — Georgetown Univ., School of Med., WASHINGTON 7, D.C., Md, U.S.A.
(no data received on Nov. 1st, 1953)
- KATAKURA, Y. M.A. — Biol. Lab., Keio Univ., Hiyoshi, Kohoku, YOKOHAMA, Japan
(no data received on Nov. 1st, 1953)
- KAVANAU, J. L. B.S., M.S., Ph.D. — Werner-Grens Inst. for exper. Biol., Norrtullsgatan 16, STOCKHOLM 23, Sweden
- The free amino acid, peptide and protein metabolism of normal and lithium-treated developing eggs. *Strongylocentrotus purpuratus*, *Paracentrotus lividus* and other species (*Endocyclica*, *Echinoidea*)
- KAWAKAMI, I. Dr Sc., Prof. — Biol. Inst., Fac. of Sci., Kyushu Univ., FUKUOKA, Japan
- Inductive effect and embryonic field, with special reference to the developmental mechanism of the cephalic sensory organs. (*Amphibia*)
 - Effects of chemicals on development. (*Amphibia*)
- KAWAKAMI, Mrs K. I. — Biol. Inst., Fac. of Sci., Kyushu Univ., FUKUOKA, Japan
- Mechanism of regeneration. *Eisenia faetida* (*Oligochaeta*)
 - Effects of trypan blue upon embryogenesis. *Rana nigromaculata* and *Triturus pyrrhogaster* (*Amphibia*)
- KAWAMURA, K. Rigakushi — Embryol. Section. Dept of Biol., Tokyo Metropolitan Univ., Setagaya-ku, TOKYO, Japan
- In vitro culture of neuroblast. Species undetermined (*Insecta*)
- KELLER, L. A.B. — Dept of Anat., Med. School, Univ. of Kansas, LAWRENCE, Kansas, U.S.A.
- Histochemical patterns associated with the central nervous system in developmental behaviour. *Ambystoma maculatum* (*Urodela*) (in collaboration with E. WENGER and P. ROOFE)
- KEMP, N. E. Ph.D. — 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* and *Ambystoma punctatum* (*Amphibia*)
- KENT, D. E. A.B. — Dept of Zool., Univ. of North Carolina, CHAPEL HILL, N.C., U.S.A.
- Effects of radio-isotopes on mitosis. *Ambystoma maculatum* (*Urodela*) (in collaboration with D. P. COSTELLO and Miss C. HENLEY)

- KERR, J. Graham Dr, Prof. (Emer.) — Dalney Veed, ROYSTON (Herts),
Barley, England (U.K.)
- KESSLER, Miss H. F. B.Sc. — Zool. Lab. der Rijks Univ., Janskerkhof 3,
UTRECHT, Holland
- a. Inhibition of HCn effects by calcium ions. *Limnaea stagnalis* (*Gastro-
poda*)
- KIENY, Miss M. A. Lic. ès Sci. — Lab. de Zool. de la Fac. des Sci. et Lab.
d'Embryol. et Tératol. expér. du C.N.R.S., Inst. de Zool. et de Biol.
gén., 12 Rue de l'Université, STRASBOURG, France
- a. Recherches sur la morphogénèse et les besoins nutritifs des os de car-
tilage en culture *in vitro*. *Gallus gallus* (*Aves*)
 - b. Problèmes relatifs aux causes de l'achondroplasie. *Gallus gallus*, var.
Creepier (*Aves*)
- KIESSLING, K.-H. Fil.lic. — Inst. for Zoophysiol., Uppsala Univ., UPP-
SALA, Sweden
- a. Metabolic reactions in egg cells. (*Echinoidea*)
- KIHLSTRÖM, J.-E. Fil.Mag. — Inst. for Zoophysiol., Uppsala Univ.,
UPPSALA, Sweden
- a. The physiology of ripening in spermatozoa. (*Mammalia*)
 - b. The mechanism of agglutination of spermatozoa. (*Mammalia*)
- KILLE, R. A. B.Sc. — Dept of Zool., Univ. of Edinburgh, West Mains Rd,
EDINBURGH 9, Scotland (U.K.)
- a. The early development of the skull bones developing in connection with
the sensory line canals. *Salmo* spp. (*Teleostei*)
 - b. The first formation and further development of the sensory lines. *Salmo*
spp. (*Teleostei*)
- KINDAHL, Miss M. E. Phil.Dr — Zootom. Inst., Univ. of Stockholm, 116
Drottninggatan, STOCKHOLM, 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.
- a. The problem of nuclear differentiation, investigated by means of trans-
plantation of embryonic cell nuclei into enucleated eggs. *Rana* (*Anura*)
(in collaboration with R. W. BRIGGS)
- KING, T. S. M.B., Ch.B. — Dept of Anat., Fac. of Med., Univ. of Sheffield,
SHEFFIELD, England (U.K.)
- a. Histological studies of the cardiac conducting system. *Cetacea* and *Car-
nivora* (*Mammalia*)
- KLAPPER, C. E. A.B., Ph.D. — Univ. of Alabama, Med. Center, BIR-
MINGHAM 5, Alabama, U.S.A.
- a. Development of the pharyngeal derivatives. *Cricetus cricetus* (*Rodentia*)
 - b. Development and structure of salivary glands. *Cricetus cricetus* (*Ro-
dentia*)
- KLOFT, W. Dr rer.nat. — Inst. für Angewandte Zool. der Univ., Naturw.
Fak., Röntgenring 10, WÜRZBURG, Deutschland
- a. Abhängigkeit der Entwicklung verschiedener cecidogener Pflanzenläuse
von der Gallenbildung. (*Aphidoidea* and *Coccidoidea*, *Insecta*)
- KNIGHT, Miss P. A.B., M.S. — Dept of Zool., Univ. of Calif., LOS
ANGELES 24, Cal., U.S.A.

- a. Biological characteristics of the developing blood of the embryo. *Gallus domesticus* (*Aves*) (in collaboration with A. M. SCHECHTMAN)
- KNIGHT-JONES, E. W. D.phil. — Marine Biol. Stat., Univ. Coll. of N. Wales, BANGOR, N. Wales (U.K.)
- a. Factors inducing metamorphosis in larvae of marine benthic invertebrates. *Spirorbis borealis* (*Polychaeta*) and *Balanus balanoides* (*Cirripedia*)
- b. Comparative survey of ciliary metachronism in larvae. (*Invertebrata*)
- KNOUFF, R. A. Ph.D., Prof. — Dept of Anat., Ohio State Univ., COLUMBUS 10, Ohio, U.S.A.
(no data received over some years)
- KOCHER, W. — Zool.-vergl. Anat. Inst., Naturwiss. Fak., Univ. Zürich, Künstlergasse 16, ZÜRICH 6, Schweiz
(no data received over some years)
- KOECKE, U. Dr.phil. — Zool Inst. der Univ. Köln, Kerpenerstr. 13, KÖLN-LINDENTHAL, Deutschland
- a. Krebsproblem als entwicklungsphysiologisches Problem. *Mus* (*Rodentia*)
- b. Probleme der Entwicklungsphysiologie. *Columba* (*Aves*)
- KOLLROS, J. J. Ph.D., Prof. — Dept of Zool., State Univ. of Iowa, IOWA CITY, Iowa, U.S.A.
- a. The development of the spinal cord and nerves. *Xenopus laevis* (*Anura*) (Normal Table)
- b. Influence of peripheral and intracerebral factors upon the growth of the midbrain. *Rana*, *Bufo*, *Pseudacris* (*Anura*)
- c. Metamorphic effects of locally applied thyroxin (midbrain and gut). *Rana*, *Bufo*, *Pseudacris*, *Ambystoma* (*Amphibia*)
- d. Regeneration of the midbrain in embryos and larvae. *Rana*, *Bufo*, *Pseudacris*, *Xenopus* (*Anura*)
- e. The normal development of the cells of the mesencephalic V nucleus. (*Anura*)
- f. Development of grafted heads (with special reference to the various parts of the brain), trunks and tails (with special reference to the spinal cord and ganglia). *Rana*, *Ambystoma* (*Amphibia*)
- KÖNIGSBERG, I. R. A.B., Ph.D. — Div. of Chem. Embryol., Med. Center, Univ. of Colorado, 4200 East Ninth Ave, DENVER 20, Col., U.S.A.
- a. Ontogeny of hormonal correlation of carbohydrate metabolism. *Gallus domesticus* (*Aves*)
- b. Histochemistry of the somite. *Gallus domesticus* (*Aves*) (in collaboration with H. HERRMANN)
- c. Effect of hormones on muscle development. *Gallus domesticus* (*Aves*) (in collaboration with H. HERRMANN)
- KONOPACKA, Mrs B. Dr, M.V.S.S. — Inst. of Histol. and Embryol., Acad. of Med., ul. Chałubińskiego 5, WARSZAWA, Poland
(no data received on Nov. 1st, 1953)
- KOPSCH, Fr. F.I.I.E., Dr Med., Prof. (Emer.) — Archivstrasse 9, BERLIN-DAHLEM, Deutschland (Anat. Inst. der Humboldt Univ., Ostsektor)
- KRABBE, K. H. Dr Med. — Tornblad-Inst. of comp. Embryol., Biskopsgatan 7, LUND, Sweden (from Kommunehospitalet, COPENHAGEN, Denmark)
(no data received on Nov. 1st, 1953)

- KRAIŃSKA, Mrs M. K. Mag. of Sci. — Inst. of Histol. and Embryol., Acad. of Med., ul. Chałubińskiego 5, WARSZAWA, Poland
(no data received on Nov. 1st, 1953)
- KRAUSE, W. Dr Med. — Anat. Inst. der Univ. Wien, Währingerstr. 13, WIEN IX, Oesterreich
(no embryological work in progress)
- KRAUSS, M. Ph.D. — Biophysics Branch, Chemical Corps, Med. Labs, Army Chemical Center, EDGEWOOD, Md, U.S.A.
(no data received on Nov. 1st, 1953)
- KRISZAT, G. Dr rer.nat. — Wenner-Grens Inst. for experimental Biology, Norrtullsgatan 16, STOCKHOLM Va., Sweden
(no data received on Nov. 1st, 1953)
- KROPP, B. N. A.M., Ph.D., Prof. — Med. School, Queen's Univ., KINGSTON, Ont., Canada
- a. Egg membranes. *Gallus domesticus* (*Aves*)
- KUGLER, O. E. Ph.D., Assoc.Prof. — Dept of Zool., Univ. of Illinois, URBANA, Ill., U.S.A.
(no embryological work in progress)
- KÜHN, A. Dr Phil.h.c., Dr rer.nat., Prof. — Max Planck-Inst. für Biol., Spemannstr. 34, TÜBINGEN, Deutschland
- a. Wundheilung und Regeneration. *Ephestia* und *Ptychopoda* (*Lepidoptera*)
- b. Entwicklung der Schuppen bei verschiedenen Mutanten und unter experimentellen Bedingungen. *Ephestia* und *Ptychopoda* (*Lepidoptera*)
- c. Genwirkung und Phaenocopien bei der Ausbildung von Zeichnungsmustern. *Ephestia* und *Ptychopoda* (*Lepidoptera*)
- d. Vergl. Untersuchungen der Furchung und Keimblätterbildung bei div. spec. (*Hydroidea*)
- e. Eiwachstum. (*Cladocera*, *Crustacea*)
- KUHN, O. Dr rer.nat., Prof. — Zool. Inst. der Univ. Köln, Kerpenerstr. 13, KÖLN-LINDENTHAL, Deutschland
- a. Hormonwirkungen in der Morphogenese.
- b. Entwicklungsphysiologie der Feder. (*Aves*)
- c. Wirkungsweise carcinogener und anderer Substanzen.
- KUIPER, Miss E. A. — Anat.-Embryol. Inst., Municipal Univ. of Amsterdam, Mauritskade 61, AMSTERDAM O, Holland
- a. Influence on metamorphosis on the different stages of regeneration. (*Urodela*) (in collaboration with H. A. L. TRAMPUSCH)
- KUNO, M. M.A. (Rigakushi) — The Sugashima Marine Biol. Stat., Nagoya Univ., SUGASHIMA-MURA, Shima-gun, Mie-ken, Japan
- a. Physiological studies on the cleavage of eggs. *Hemicentrotus pulcherrimus*, *Pseudocentrotus depressus* (*Echinoidea*)
- KURKIEWICZ, T. Dr Sc., Prof. — Inst. d'Histol. et d'Embryol., Fac. de Méd. de l'Acad. de Méd. à Poznań, ul. Swiecickiego 6, POZNAŃ, Pologne
(no data received over some years)
- KUTSKY, R. J. A.B., M.A. — Dept of Zool., Univ. of Calif., BERKELEY 4, Cal., U.S.A.
- a. Fractionation of embryo extract for growth promoting factors in tissue culture. *Gallus domesticus* (*Aves*)

- KUTSKY, Mrs P. B. A.B., Ph.D. — Dept of Zool., Univ. of Calif., BERKELEY 4, Cal., U.S.A. (no embryological work in progress)
- KUUSI, Miss T. K. Dr Phil. — Zool. Lab., Univ. of Helsinki, Dept of Physiol., 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 (Urodela)*
 - Study on the process of induction caused by granular fractions containing ribonucleic acid marked with P₃₂, analyzed by aid of radio-autographic methods. *Triturus (Urodela)*
 - The chemical nature of specific inductive substances (bone marrow of the guinea-pig); role of the proteins and nucleic acids. *Triturus (Urodela)*
 - The chemical nature of growth promoting substances (tissue extracts); role of the proteins and nucleic acids. *Mus rattus (Rodentia)*
- LALLIER, R. A. Dr ès Sci. — Inst. de Biol. physicochimique, 13 Rue Pierre Curie, PARIS Ve, France
- Li et développement embryonnaire, étude de la biochemie des embryons lithinés. *Rana fusca*, *Ambystoma mexicanum (Amphibia)*
 - Étude de l'induction. *Triton taeniatus (Urodela)*
 - Insuline et développement embryonnaire. *Rana fusca (Anura)*
 - Étude de la détermination. *Rana fusca (Anura)*, *Paracentrotus lividus* et *Arbacia punctulata (Echinodermata)*
 - Le déterminisme sexuel. *Bonellia viridis (Chaetopoda)*
- LAMY, F. M.A. — Dept of Biol., Massachusetts Inst. of Technol., CAMBRIDGE 39, Mass., U.S.A. (no data received over some years)
- LANDAUER, W. Ph.D., Prof. — Dept of 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 chondrodystrophy" etc. *Gallus domesticus (Aves)*
 - A causal analysis of teratogenic action of insulin on developing embryos. *Gallus domesticus (Aves)*
 - Hereditary (lethal) cyclocephaly and cyclopia. *Gallus domesticus (Aves)*
 - Teratogenic action of boric acid in the embryo. *Gallus domesticus (Aves)*
- LANGEVOORT, H. L. Med.Drs — Anat.-Embryol. Lab. der Rijks Univ., Oostersingel 69, GRONINGEN, Holland
- Development of paraphysis and the circulation of the cerebrospinal fluid. *Gallus (Aves)*
 - Development of meninges. *Gallus (Aves)*
- LANGMAN, J. Dr Med. — Anat. Embryol. Lab., Free Univ., Pr. Hendriklaan 27, AMSTERDAM Z, Holland
- Teratogenetic effect of thyreoectomised pregnant animals on the developing embryo. *Rattus norvegicus albinus (Rodentia)* (in collaboration with F. van FAASSEN)
 - Influence of influenza-virus during pregnancy on the developing embryo. *Mus musculus (Rodentia)* (in collaboration with R. NIEUWENHUIS)
 - Study of abnormal development by injecting methyl-thiouracil into eggs. *Gallus domesticus (Aves)*
 - Joint development. *Homo (Primates)*
 - Serological experiments with embryonic explanted tissues. *Gallus domesticus (Aves)*

- LANZAVECCHIA, G. Biol.Sc.Dr — Ist. di Zool. e Anat. Comp., Univ. di Milano, Via Celoria 10, MILANO, Italia
- Chemical embryology (leading studies).
- LARAMBERGUE, M. de Dr ès Sci., Prof. — Lab. de Zool., Fac. des Sci., POITIERS, Vienne, France
- Recherches sur le développement embryonnaire de l'appareil génital hermaphrodite. (*Gastropoda*)
 - Differenciation des gamètes chez des formes hermaphrodites. (*Gastropoda*)
- LASH, J. W. — Dept of Zool., Univ. of Chicago, CHICAGO 37, Ill., U.S.A.
- Dynamics of wound healing.
- LATIMER, H. B. Ph.D., Prof. (Emer.) — Dept of Anat., Med. School, Univ. of Kansas, LAWRENCE, Kansas, U.S.A.
- A study of the relative proportions in both thickness and weight of the free walls of the right and left ventricles of the heart, at various weights and heart sizes. Various animals, including *Homo*
 - A quantitative study of the prenatal increase in weight and also in percentage weight of the hypophysis, thyroid, thymus and suprarenal glands. *Canis (Carnivora)*
 - 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)*
- LEBLOND, C. P. M.D., Ph.D., Prof. — Dept of Anat., McGill Univ., MONTREAL, Quebec, Canada
- Development of the thyroid gland. (*Vertebrata*)
 - The development of bones and teeth as shown on radioautographs with the help of radio-phosphorus and radio-carbon. (*Vertebrata*) (in collaboration with R. GREULICH)
- LECAMP, M. — Lab. d'Evolution des Etres organisés, Fac. des Sci. de Paris, 105 Boulevard Raspail, PARIS VIe, France
- Régénération — facteurs déterminants. *Alytes obstetricans (Anura)*
- LEFEBVRES—BOISSELOT, Mrs J. Dr ès Sci. — Lab. d Embryol., Fac. de Méd., 15 Rue Ecole de Méd., PARIS VIe, France
- Tératogénèse par carence en vitamines B. *Mus rattus (Rodentia)*
 - Développement anormal de l'oeil. *Mus rattus (Rodentia)*
- LEGHISSA, S. Ph.D. — Ist. di Anat. Comp., Via Belmeloro 8, BOLOGNA (103), Italia
- Study of egg-cortex. Fusion of blastomeres. (*Ascidiae, Urochordata*)
 - Differentiation and morphology of nervous tissue. (*Coelenterata*)
 - Comparative neurology. (*Vertebrata*)
 - Effects of antimitotics on regeneration of peripheral nerves and on metamorphosis. *Rana, Bufo (Anura)* (in collaboration with P. PASQUINI)
 - Regeneration of peripheric nerves. (*Vertebrata*)
 - Action of vitamins (A, B group, C) on the histophysiology of endocrine glands during metamorphosis. *Rana (Anura)*
- LEGRAND, J.-J. Dr ès Sci., Prof. — Lab. de Zool, Fac. des Sci., POITIERS, Vienne, France
- Détermination et différenciation du sexe. (*Oniscoidea et Cymothoidea, Isopoda, Crustacea*)

- b. Développement des coaptations. (*Oniscoidea*, *Isopoda*; *Decapoda*, *Crustacea*). (*Insecta*)
 - c. Étude de la croissance. *Porcellio dilatatus* Brandt (*Oniscoidea*, *Isopoda*, *Crustacea*) et *Anilocra physodes* L. (*Cymothoidea*, *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 et *P. affinis* Verhoeff (*Oniscoidea*, *Isopoda*, *Crustacea*)
- LEHMAN, H. E. M.A., Ph.D., Assoc. Prof. — Dept of Zool., Univ. of North Carolina, CHAPEL HILL, N.C., U.S.A.
- a. Studies on the behaviour, differentiation and metabolism of pigment cells as related to the establishment of specific pigment patterns of larvae and adults. *Ambystoma* and *Triturus* (*Urodela*)
 - b. Studies on the relation of external media and physical surfaces on the migration and differentiation of tissues in vitro. *Ambystoma* and *Triturus* (*Urodela*)
- LEHMANN, F. E. F.I.I.E., Dr Phil., Prof. — Abt. für Zoophysiol., Zool. Inst. der Univ., Sahlistr. 8, BERN, Schweiz
- a. Allometrisches Wachstum. (*Amphibia*) (in Zusammenarbeit mit diversen Mitarbeitern)
 - b. Schwanzregeneration, normal und chemisch beeinflusst. *Xenopus* (*Anura*) (in Zusammenarbeit mit diversen Mitarbeitern)
 - c. Elektronenmikroskopische Struktur von tierischen Eiern. *Tubifex* (*Oligochaeta*), (*Echinodermata*), (*Ascidiae*)
 - d. Regeneration (Bedeutung der I-Zellen). (*Hydrozoa*) (in Zusammenarbeit mit P. TARDENT)
 - e. Erzeugung von Teratomen bei Larven. *Xenopus* (*Anura*)
 - f. Schwellen- und Konkurrenzphänomene bei der Bildung der Hinterextremität. *Xenopus* (*Anura*) (in Zusammenarbeit mit P. A. TSCHUMI)
- LEHN, H. — Max Planck-Inst. für Biol., Spemannstr. 34, TÜBINGEN, Deutschland
- a. Reparationsleistungen. *Hydra* (*Hydrozoa*)
- LEIBBRANT, Miss M. Cand.rer.nat. — Zool. Inst. der Univ., Katharinenstr. 20, FREIBURG i. Brsg, Deutschland
- a. Entwicklung und Bedeutung der Vitellophagen. *Apis mellifica* (*Hymenoptera*) (gemeinsam mit M. SCHNETTER)
- LELIÈVRE, A. Anc. Chef de Travaux — Lab. d'Embryol., Fac. de Méd., 15 Rue Ecole de Méd., PARIS VIe, France
- a. Étude des anomalies de divers types. *Homo* (*Primates*)
- LENDER, Th. Dr ès Sci., Prof. — Lab. de Zool. de la Fac. des Sci. et Lab. d'Embryol. et Tératol. expér. du C.N.R.S., Inst. de Zool. et de Biol. gén., 12 Rue de l'Université, STRASBOURG, France
- a. Régénération des yeux. Rôle du système nerveux dans la régénération des yeux. *Polycelis nigra* (*Turbellaria*)
- LEONE, V. M.D. — Ist. di Zool. e Anat. Comp., Univ. di Milano, Via Celoria 10, MILANO, Italia (from Ist. di Anat. umana norm. dell' Univ. di PALERMO)
- a. Urea action on embryonic development. (*Amphibia*)

- LEPORI, N. G. Lib.Doc., Prof. — Ist di Zool. e Anat. Comp. dell'Univ., Via A. Volta 4, PISA, Italia
- Ovo- and spermatogenesis — chromosome cycle. *Polycelis tenuis* (*Turbellaria*)
 - Ovo- and spermatogenesis — chromosome cycle. *Helix adspersa* (*Gastropoda*)
 - Recherches sur la différenciation de la peau et de la pigmentation. (*Aves*)
 - Ricerche sulla pigmentazione della pelle negli embrioni nelle culture sulla membrana corion-allantoidea. (*Aves*)
- LERMAN, L. Ph.D. — Div. of Chem. Embryol., Med. Center, Univ. of Colorado, 4200 East Ninth Ave, DENVER 20, Col., U.S.A.
- Incorporation of labelled amino acids into protein fractions of muscle tissue. *Gallus domesticus* (*Aves*) (in collaboration with H. HERRMANN)
 - Protein chromatography on specific adsorbens.
- LEROY, P. J. M. Dr ès Sci. — Lab. d'Histophysiol., Coll. de France, Place Marcelin Berthelot, PARIS Ve, France
- Development and physiology of the adrenals. *Gallus, Anas* (*Aves*)
- LEVER, J. Dr Phil., Prof. — Zool. Inst., Free Calvinistic Univ., Rapenburgerstraat 128, AMSTERDAM C, Holland
- Descriptive embryology. *Colisa labiosa* (*Teleostei*)
- LEVI, G. L. F.I.I.E., Dr, 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., Assoc.Prof. — Dept of Zool., Washington Univ., Lindell and Skinker Aves, ST LOUIS 5, Mo., U.S.A.
- Neuro-embryology. *Gallus domesticus* (*Aves*) (in collaboration with V. HAMBURGER)
 - Effects of mouse sarcoma on growth *in vivo* and *in vitro*. *Triturus* (*Urodela*)
- LEVY, Mrs G. Dr ès Sci., lauréat de l'Acad.Méd. — Lab. d'Embryol., Fac. de Méd., 15 Rue de l'Ecole de Méd., PARIS VIe, France
- Vitamines chez la mère et le foetus. *Mus rattus* (*Rodentia*)
 - Teratogénèse par carence. *Mus rattus* (*Rodentia*)
- LEWIS, W. H. F.I.I.E., Dr, Prof. (Emer.) — Wistar Inst. of Anat. and Biol., PHILADELPHIA 4, Pa, U.S.A. (no data received)
- LILLIE, R. S. Ph.D., Sc.D. — Physiol. Lab., Univ. of Chicago, CHICAGO 37, Ill., U.S.A. (no data received on Nov. 1st, 1953)
- LIMBORGH, J. van Med.Drs — Anat.-Embryol. Lab. der Rijks Univ., Janskerkhof 3, UTRECHT, Holland
- Origin of the asymmetry of the gonads in bird-embryos. *Anas boschas* (*Aves*)
 - Differentiation of sex in birds. *Anas boschas* (*Aves*)
- LINDAHL, P. E. F.I.I.E., Fil. Dr, Prof. — Inst. for Zoophysiol., Uppsala Univ., UPPSALA, Sweden
- Large scale separation of macromeres, mesomeres and micromeres of the developing egg. (*Echinoidea*)

- b. The biochemical mechanism of the animalization of the unfertilized egg. (*Echinoidea*)
 - c. The biochemical background for the vegetalization of the egg by Li^+ . (*Echinoidea*)
 - d. The physiology of ripening in spermatozoa. (*Mammalia*)
 - e. The mechanism of agglutination of spermatozoa. (*Mammalia*)
 - f. The primary sex rate. (*Mammalia*)
 - g. Somatic reduction divisions in developing eggs. (*Echinoidea*)
- LINDBERG, N. O. H. Phil.Dr — Wenner-Grens Inst. for experimental Biology, Norrtullsgatan 16, STOCKHOLM Va., Sweden
(no data received on Nov. 1st, 1953)
- LINDSKOG, B. Med.kand. — Tornblad-Inst. of comp. Embryol., Biskopsgatan 7, LUND, Sweden
(no data received on Nov. 1st, 1953)
- LIPSCHUTZ, A. M.D., Prof. — Depto de Med. Exper. del Servicio Nacional de Salubridad, Av. Irarrázaval 849, SANTIAGO, Chile, S. America
(no data received on Nov. 1st, 1953)
- LISON, L. Prof. — Fac. de Méd. de Ribeirão Preto, Univ. de São-Paulo, Brésil
- LITTLE, C. C. Sc.D., Prof. — Jackson Memorial Lab., Box 558, BAR HARBOR, Me, U.S.A.
(no data received over some years)
- LITTRELL, J. L. Dr — Baxter Laboratories, MORTON GROVE, Ill. U.S.A.
- a. Factors influencing regeneration of nerve fibers in the central nervous system of adult animals. *Felis domestica* (*Carnivora*) and (*Anthropoidea*) (in collaboration with W. F. WINDLE and E. G. STUART)
 - b. Growth and regeneration of the severed spinal cord in embryos. *Gallus domesticus* (*Aves*) (in collaboration with W. F. WINDLE and E. G. STUART)
- LIU, J. C. B.S., Ph.D., Asst Prof. — Dept of Anat., School of Med., Univ. of Pennsylvania, PHILADELPHIA 4, Pa, U.S.A.
- a. Restoration of the intrinsic neurons following damage.
 - b. Fate of cells of Clarke's nucleus following axon section. *Felis domestica* (*Carnivora*)
- LOECHER, Miss E. Cand.rer.nat. — Zool. Inst. der Univ., Katharinenstr. 20, FREIBURG i. Brsg., Deutschland
- a. Keimblätterbildung und Differenzierungsleistungen in isolierten Eiteilen. *Apis mellifica* (*Hymenoptera*) (gemeinsam mit M. SCHNETTER)
- LOMBARD, G. L. M.Sc. (Pret.), Ph.D. (Utrecht) — Dept of Zool., Fac. of Sci., Univ. of Pretoria, PRETORIA, S. Africa
- a. Morphogenesis with special reference to the pectoral girdle. *Chrysemys* (*Cryptodira, Testudinata*)
 - b. Further investigation into the secondary outgrowths in damaged embryos. *Xenopus laevis* (*Anura*)
- LOS, J. A. — Anat.-Embryol. Lab. of the Univ. of Leyden, Fac. of Med., Wassenaarseweg, Boerhaavekwartier, LEIDEN, Holland
- a. Normal and abnormal development of the heart. *Homo* and other *Animalia* (in collaboration with J. DANKMEIJER)

- LOSSEROY, J. — Lab. d'Histol., Dép. d'Embryol., Fac. de Méd., 31 Rue Lionnois, NANCY (Meurthe & Moselle), France
- Action de certaines substances chimiques sur les mouvements ciliaires et sur la motilité du spermatozoïde. (*Amphibia*) (en collaboration avec A. DOLLANDER)
- LØVTRUP, S. Ph.D. — Cytochem. Dept, Carlsberg Lab., 8 Gl. Carlsbergvej, COPENHAGEN Valby, Denmark
- Chemical differentiation during development. Enzymes and nucleic acids. *Ambystoma mexicanum* (*Urodela*)
 - Metabolism during various stages of development measured by uptake and loss of radioactive CO₂. *Ambystoma mexicanum* (*Urodela*)
- LUCEY, E. C. A. B.Sc. — Inst. of Animal Genet., Univ. Dept of Genet., King's Buildings, West Mains Rd, EDINBURGH 9, Scotland (U.K.)
- 16-mm film of normal and mutant egg development. *Drosophila melanogaster* (*Diptera*) (in collaboration with S. J. COUNCE and D. A. EDE)
 - 16-mm film of development, and of operative technique. *Triton* (*Urodela*) (in collaboration with C. H. WADDINGTON)
- LÜDTKE, H. Dr, Prof. — Zool. Inst. der Univ., Katharinenstr. 20, FREIBURG i. Brsg., Deutschland
- Entwicklung der Sehleistung. *Notonecta glauca* (*Heteroptera, Hemipteroidea*)
 - Entwicklung der Sehleistung. *Mus rattus* (*Rodentia*) (gemeinsam mit G. HERMANN)
 - Entwicklung der Sehleistung. (*Lepidoptera; Culicidae, Diptera*) (gemeinsam mit G. HAAS und P. BUTZ)
- LÜSCHER, M. Dr Phil.(Basel) — Zool. Anstalt, Univ. Basel, BASEL, Schweiz (and Swiss Tropical Inst., BASEL, Schweiz)
- Differentiation of castes in termites, especially the determination of supplementary reproductives in primitive termites. *Kalotermes flavicollis* (Fabr.) (*Isoptera, Insecta*)
 - Descriptive and experimental study of the glands producing moulting + metamorphosis hormones. *Zootermopsis nevadensis* (Hagen), (*Isoptera, Insecta*)
- LUTHER, W. Dr Phil., Prof. — Zool. Inst. der Univ., MARBURG, Deutschland (no data received over some years)
- LUTZ, H. Dr ès Sci., Prof. — Lab. de Zool., Fac. des Sci., 1 Avenue Vercingétorix, CLERMONT-FERRAND, France
- Développement du blastoderme pendant les premières heures de l'incubation. *Anas* (*Aves*)
 - La polyembryonie expérimentale; l'orientation des embryons. (*Aves*)
 - Polyembryonie expérimentale. *Salmonidae* (*Teleostei*) (en collaboration avec Mrs. Y. LUTZ—OSTERTAG)
 - Formation de l'entoblaste. (*Aves*)
- LUTZ—OSTERTAG, Mrs Y. Dr ès Sci. — Lab. de Zool., Fac. des Sci., 1 Avenue Vercingétorix, CLERMONT-FERRAND, France
— Lab. de Zool de la Fac. des Sci. et Lab. d'Embryol. et Tératol. exper. du C.N.R.S., Inst. de Zool. et de Biol. génér., 12 Rue de l'Université, STRASBOURG, France
- La genèse de l'asymétrie du tractus génital et la régression des canaux de Müller par la méthode d'explantations. *Gallus* (*Aves*)

- b. Rôle des hormones dans la différenciation primaire du sexe. *Gallus (Aves)* (en collaboration avec Et. WOLFF)
- c. Polyembryonie expérimentale. *Salmonidae (Teleostei)* (en collaboration avec H. LUTZ)
- LYON, Miss M. F. Ph.D. — Med. Res. Council. Inst. of Animal Genet., King's Building's, West Mains Rd, EDINBURGH 9, Scotland (U.K.)
- a. Developmental study of absence of otoliths. *Mus musculus (Rodentia)*
- b. Developmental study of the zigzag mutant. *Mus musculus (Rodentia)*
- MACKENZIE, J. Ph.D. — Dept of Pediatrics, Med. School, Univ. of Colorado, 4200 East Ninth Ave, DENVER 7, Col., U.S.A.
(no data received on Nov. 1st, 1953)
- MACMILLAN, E. W. Dr — Dept of Anat., Univ. of Liverpool, LIVERPOOL, England (U.K.)
- a. The importance of the epididymis and its vascularization for spermatogenesis. (*Mammalia*)
- MAKINO, S. Nogakushi, Riqakuhakushi (Dr), Prof. — Zool. Inst., Fac. of Sci., Hokkaido Univ., North 8, West 5, SAPPORO, Japan
(no data received on Nov. 1st, 1953)
- MALAMED, S. A.B., M.S. — Dept of Zool., Fac. of pure Sci., Columbia Univ., Broadway and 116 St, NEW YORK 27, N.Y., U.S.A.
- a. Effect of high pressures of oxygen on development. *Rana pipiens (Anura)*
- MALAN, Miss M. E. D.Sc. — Zool. Inst., Univ. of Stellenbosch, STELLENBOSCH, South Africa
- a. Gastrulation. *Spheniscus demersus (Aves)*
- MALTESE, Miss C. Dr — Ist. di Zool., Via Archirafi 18, PALERMO, Italia
- a. Xenoplastic transplantations of entoderm. (*Amphibia*)
- MAN, J. C. H. de Physician — Anat.-Embryol. Lab. of the Univ. of Leyden, Fac. of Med., Wassenaarseweg, Boerhaavekwartier, LEIDEN, Holland
- a. Development of the suprarenal gland. *Mus norvegicus albinus (Rodentia)*
- MANARESI, Miss A. Dr Nat.Hist. — Ist. di Anat. Comp., Via Belmeloro 8, BOLOGNA (103), Italia
- a. Histogenesis of motor nuclei of cranial nerves. (*Vertebrata*)
- MANCUSO, V. Dr — Ist. di Zool., Via Archirafi 18, PALERMO, Italia
- a. The distribution of enzymes and of other substances in the germ during development. (*Ascidiae*)
- b. Enzymes and other substances in embryonic development. (*Pulmonata, Gastropoda*)
- MANDL, Mis A. M. B.Sc. (Lond.), Ph.D. (B'ham) — Dept of Anat., The Med. School, Birmingham Univ., Edgbaston, BIRMINGHAM 15, England (U.K.)
(no data received on Nov. 1st, 1953)
- MANELLI, E. Ph. D. — Ist. di Anat. Comp., Via Belmeloro 8, BOLOGNA (103), Italia
- a. Analysis of development of some proteins (antigen-reactions). (*Amphibia*)
- MANGOLD, O. F.I.I.E., Dr, Prof. — Heiligenberg-Inst., (17b) HEILIGENBERG, Kreis Ueberlingen, Bodensee, Deutschland
- a. Entstehung und Determination der Geschlechtszellen und Gonaden. *Triton (Urodela)* (gemeinsam mit O. J. STÄRK)

- MANHOFF, L. J. M.D. — Rob't B. Green Hosp., SAN ANTONIO, Tex., U.S.A.
- a. Experimental production of anomalies of the fourth and sixth aortic arches by microelectrocoagulation in 3-day embryos. *Gallus (Aves)*
- MANTON, S. M. F.R.S., M.A., Sc.D. — King's Coll., Strand, LONDON W.C.2, England (U.K.)
- a. Embryology. *Peripatopsis (Onychophora, Annelida)*
- MARCHAND, J. M. M.Sc., Ph.D. — Division of Fisheries, Beach Road, Sea Point, CAPE TOWN, South Africa
(no embryological work in progress)
- MARCHLEWSKI, J. H. Dr — Zakład Anat. Porównawczej U. J. im. H. Hoyera, św. Anny 6, KRAKOW, Poland
- a. The rearing of European forms. *Tetraonidae (Galliformes, Aves)*
- 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)
- MARJANEN, P. — Zool. Lab., Univ. of Turku, TURKU, Finland
(no embryological work in progress)
- MARKERT, C. L. Ph.D. — Dept of Zool., Univ. of Michigan, ANN ARBOR, Mich., U.S.A.
- a. Influence of cellular genotype on substrate specificity of tyrosinase in melanoblasts cultured *in vitro*. *Gallus domesticus (Aves)* and *Peromyscus maniculatus (Rodentia)*
- b. The effects of metabolite analogs on embryonic development. *Rana pipiens (Anura)*
- c. Relative roles of nucleus and cytoplasm in cell differentiation. *Rana pipiens (Anura)*
- MARLIER, G. — Lab. de Zool., Fac. des Sci., Inst. de Zool. Torley-Rousseau, Univ. libre de Bruxelles, 50 Avenue F. D. Roosevelt, BRUXELLES, Belgique
(no data received over some years)
- MARTIN, Miss B. A. Columbia Univ. M.A. and Ph.D. — Dept of Biol., Brooklyn Coll., Bedford Ave and Ave H, BROOKLYN 10, N.Y., U.S.A.
- a. Cytology and embryology. (*Insecta*)
- MASUDA, H. — Lab. of Embryol. and Exper. Morphol., Zool. Inst., Dept of Sci., Kyoto Univ., KYOTO, Japan
- a. Behaviour of phosphor in early development. *Triturus pyrrhogaster (Urodela)*
- b. Induction in regenerating blastema. *Triturus pyrrhogaster (Urodela)*
- c. Regional differences of induced structure.
- MASY, Miss S. — Inst. d'Anat., Univ. de Louvain, 38 Rue des Récollets, LOUVAIN, Belgique (no data received on Nov. 1st, 1953)
- MATHER, W. B. M.Sc. — Zool. Dept, Univ. of Queensland, George Str., BRISBANE, Queensland, Australia
(no embryological work in progress)
- MAZIA, D. Ph.D. — Dept of Zool., Univ. of California, BERKELEY 4 Cal., U.S.A.
- a. Desoxyribonuclease in development. (*Echinoidea*)

- b. Nucleoproteins of sperm. (*Echinoidea*)
 c. Isolation and biochemistry of mitotic apparatus in cleaving embryo.
 d. Embryology. *Strongylocentrotus purpuratus* (*Echinoidea*)
 e. Embryology. *Strongylocentrotus franciscanus* (*Echinoidea*)
- McCafferty, R. E. Ph.D. — Dept of Anat., School of Med., Univ. of Maryland, BALTIMORE 1, Md, U.S.A.
 a. Retardation of growth in the fetus by maternally administered beta radiation. *Mus musculus* (*Rodentia*)
 b. A physiological study of the amnion and placenta of the fetus. *Mus musculus* (*Rodentia*)
- McCallion, D. J. B.A., Ph.D., Prof. — Dept of Biol., Acadia Univ., WOLFVILLE, Nova Scotia, Canada
 a. Histochemistry of bone development. *Gallus domesticus* (*Aves*)
 b. Effects of vitamin B₁₂ and aureomycin on growth as revealed in mitotic activity. *Mus musculus* (*Rodentia*)
- McKeehan, M. S. M.S., Ph.D. — Dept of Anat., School of Med., Univ. of Virginia, CHARLOTTESVILLE, Va, U.S.A.
 a. A study of the effects on lens induction of blocking contact between retina and lens ectoderm with various membranes. *Gallus domesticus* (*Aves*)
 b. The self-differentiating capacity of the developing lens as tested by transplantation experiments. *Gallus domesticus* (*Aves*)
 c. The distribution of ribose nucleic acid in the tissues of the eye during lens induction. *Gallus domesticus* (*Aves*)
- McKerrow, Miss M. J. Ph.D. — Dept of Zool., Univ. of the Witwatersrand, Milner Park, JOHANNESBURG, South Africa
 a. Embryonic development of the mammary glands. *Elephantulus myurus jamesoni* (*Insectivora*)
- McMinn, R. M. H. M.B., Ch.B. — Dept of Anat., Fac. of Med., Univ. of Sheffield, SHEFFIELD, England (U.K.)
 a. Regeneration of intestinal mucosa. (*Mammalia*)
- McMurray, Miss V. M. A.B., M.S., Ph.D. — Hubrecht Lab., Internat. Embryol Inst., Janskerkhof 2, UTRECHT, Holland
 a. Development of the optic tectum. Cell size and number, as influenced by raising in darkness. *Xenopus laevis* (*Anura*)
- McNutt, C. W. A.B., M.S., Ph.D. — Dept of Anat., Med. Branch, Univ. of Texas, GALVESTON, Tex., U.S.A.
 a. Analysis of morphological effects of the short ear gene. *Mus musculus* (*Rodentia*)
 b. Genetic study of susceptibility and resistance to 4% NaCl in drinking water. *Mus musculus* (NH and I.H.B.) (*Rodentia*)
- Medawar, P. B. M.A., D.Sc. — Dept of Zool. and Comp. Anat., Univ. Coll. London, Gower St, LONDON W.C.1, England (U.K.)
 a. Development of capacity to respond to antigens. *Bos taurus* ? (*Artiodactyla*) and *Mus musculus* (*Rodentia*)
- Mellanby, Sir Edward — National Institute for Med. Research, Mill Hill, LONDON, England (U.K.)
 (no data received on Nov. 1st, 1953)
- Melnotte, P. J. — Lab. d'Histol., Dép. d'Embryol., Fac. de Méd., 31 Rue Lionnois, NANCY (Meurthe & Moselle), France

- a. Etude des propriétés de perméabilité du cortex de l'oeuf. (*Amphibia*)
(en collaboration avec A. DOLLANDER)
- MENSHCHIK, Z. M.B., Ch.B., M.D., Prof. — Dept of Anat., Fac. of Med.,
Univ. of Ottawa, OTTAWA, Canada
- a. The influence of unsaturated fatty acids on development. *Oryctolagus cuniculus* (*Lagomorpha*)
- b. New histochemical methods for demonstration of phospholipids and unsaturated fatty acids to be used for the study of developing adipose tissue. *Oryctolagus cuniculus* (*Lagomorpha*)
- MERRITT, Mrs J. K. M.S. — Dept of Embryol., Div. of Biol., Calif. Inst. of Technol., PASADENA 4, Cal., U.S.A.
- a. Investigations of the chemical and biological properties of fertilizins of invertebrates. *Strongylocentrotus purpuratus* and *Arbacia punctulata* (*Echinoidea*) (in collaboration with A. TYLER)
- MES, Miss A. B. M. B.Sc. — Zool. Lab. der Rijks Univ., Janskerkhof 3, Utrecht, Holland
- a. Influence of dinitrophenol on development. *Limnaea stagnalis* (*Gastropoda*)
- 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. — Dept of Zool., Florida State Univ., TALLAHASSEE, Florida, U.S.A.
- a. Electron microscopy of fibrillar systems. *Paramecium* and *Tetrahymena* (*Protozoa*)
- b. Specific interacting substance of eggs and sperm. (*Echinodermata*)
- MEYER, R. de — Inst. d'Anat., Univ. de Louvain, 38 Rue des Récollets, LOUVAIN, Belgique
(no data received on Nov. 1st, 1953)
- MIALHE, P. — Lab. d'Evolution des Etres organisés, Fac. des Sci. de Paris, 105 Boulevard Raspail, PARIS VIe, France
(no embryological work in progress)
- MICHAEL, M. I. B.Sc., M.Sc. — Dept of Zool., Alexandria Univ., Moharram Bey, ALEXANDRIA, Egypt
- a. The development of skull and visceral muscles during metamorphosis. *Xenopus laevis* (*Anura*) (Normal Table) (in collaboration with S. N. SEDRA)
- MICHON, J. Chef de Travaux — Lab. de Zool., Fac. des Sci., POITIERS, Vienne, France
- a. Croissance, régénération. *Lumbricidae* (*Oligochaeta*)
- MICKIEWICZ, Miss Z. Physician — Inst. of Histol. & Embryol., Acad. of Med., Narutowicza 60, ŁODZ, Poland
- a. Influence of sulphonamides on monstruosities in embryos. *Gallus* (*Aves*)
- b. Influence of sulphonamides on the size of embryos. *Gallus* (*Aves*)
- MIFUNE, S. — Biol. Inst., Fac. of Sci., Kyushu Univ., FUKUOKA, Japan
- a. Li-effects on morphogenesis. *Planaria gonocephala* (*Turbellaria*), (*Amphibia*)
- b. Metabolism of amino acids in morphogenesis. *Rana nigromaculata* (*Anura*)

- MIJSBERG, Miss M. B.Sc. — Hubrecht Lab., Internat. Embryol. Inst., Janskerkhof 2, UTRECHT, Holland
- a. Spatial and temporal course of the neural activation. *Triturus alpestris* (*Urodela*)
- MILLARD—BOKENHAM, Mrs N. A. H. Ph.D. — Dept of Zool., Univ. of Cape Town, Rondebosch, CAPE TOWN, S. Africa
- a. Complete development of the veins and arteries. *Xenopus laevis* (*Anura*) (Work complete but Normal Table still to be done)
- MILTENBURG, J. M.Sc. — Zool. Lab. der Rijks Univ., Janskerkhof 3, UTRECHT, Holland
- a. Normal development and cytology of the pineal region. *Chamaeleo bitaeniatus* and *Mabuia megalura* (*Lacertilia*)
- MINGANTI, A. Dr — Ist. di Zool., Via Archirafi 18, PALERMO, Italia
- a. The cytology of hybrids. Lethal hybrids. (*Ascidiae*, *Urochordata*)
 - b. The physiology of fertilization. (*Ascidiae*, *Urochordata*)
 - c. Chemical and physiological investigations on the jelly. (*Amphibia*)
- MINTZ, Miss B. M.S., Ph.D., Asst Prof. — Whitman Lab., Univ. of Chicago, 5700 S. Ingleside, CHICAGO 37, Ill., U.S.A.
- a. Role of hormones in sex differentiation: *in vivo* paired explants of embryonic gonads in direct contact, or separated by a membrane barrier. *Gallus domesticus* (*Aves*)
 - b. Histochemical studies on oviduct regression, and on appearance of oviduct asymmetry in the female embryo. *Gallus domesticus* (*Aves*)
- MIYAMORI-YAMAMOTO, H. M.Sc. — Lab. Exper. Embryol., Inst. of Polytechn., Osaka City Univ., Minami-Ogimati, Kita-ku, OSAKA, Japan
- a. Effects of various proteinic and sterolic hormones upon the sex-differentiation of the gonad. *Hynobius nebulosus* (Schlegel) (*Urodela*)
- MOFFETT, Jr. B. C. A.B.(Zool.), Ph.D.(Anat.) — Univ. of Alabama., Med. Center, BIRMINGHAM 5, Alabama, U.S.A.
- a. Embryology of the temporomandibular joint. *Rattus norvegicus* (*Rodentia*)
 - b. Embryology of the temporomandibular joint. *Homo sapiens* (*Primates*)
- MOLL, J. Dr Med. — Anat.-Embryol. Lab. der Rijks Univ., Oostersingel 69, GRONINGEN, Holland
- a. Embryological development of the roof of the fourth ventricle and the area postrema. (*Mammalia* and *Aves*)
 - b. Joint development. *Homo* (*Primates*) and *Mus musculus* (*Rodentia*)
- MONET, Miss N. A. — Central de Investig., Minist. de Salud Públ. de la Nación, Bolivar 1128, BUENOS AIRES, Argentina
(no data received on Nov. 1st, 1953)
- MONTEFOSCHI, Miss E. Dott. Sci. Biol. — Stazione Zool. di Napoli, NAPOLI, Italia
(no data received on Nov. 1st, 1953)
- MONTEROSSO, B. Prof.ord., Dir. — Ist. di Zool. e Anat. comp., Via Androne 25, CATANIA, Italia
(no data received over some years)
- MONNÉ, L. Phil.Dr, Assoc.Prof. — Statens veterinärmedic. anstalt, Dept of Parasitol., STOCKHOLM 50, Sweden
- a. Life cycles and developmental physiology of parasitic worms. (*Nematoda*)

- MONROY, A. M.D., Prof. — Ist. di Anat. Comp., Univ. di Palermo,
Via Archirafi 18, PALERMO, Italia
PALERMO, Italia
- Interaction between jelly-coat and sperm. (*Echinodermata*)
 - Analysis of the activation reaction in the egg. (*Echinodermata*)
- MOOG, Miss F. Ph.D., Assoc.Prof. — Dept of Zool., Washington Univ.,
Lindell and Skinker Aves, ST LOUIS 5, Mo., U.S.A.
- Development of enzyme systems in the embryo. *Gallus domesticus* (*Aves*), (*Mammalia*)
- MOOKERJEE, S. M.Sc., Ph.D. — Cell Research Unit, Chittaranjan Cancer
Hospital, CALCUTTA 26, India
- Studies on the chemical basis of tissue formation. *Gallus* (*Aves*), *Rana*, *Bufo* (*Anura*)
 - Nucleus-cytoplasm interaction. *Amoeba* (*Protozoa*)
 - Cell-chemistry of normal and carcinomatous cells. *Homo* (*Primates*)
(in collaboration with P. DE)
 - Cytochemical studies of the radiation action on embryonic cells. *Gallus* (*Aves*) (in collaboration with A. BOSE)
- MOORE, A. R. Ph.D., Prof. — Physiol. Lab., Coll. of Sci., Univ. of Port-
land, PORTLAND 3, Ore., U.S.A.
- On the architecture of blastula and gastrula. *Dendraster excentricus* (*Clypeastroidea*, *Echinoidea*)
- MOORE, Mrs B. C. A.B., A.M., Ph.D. — Dept of Zool., Fac. of pure Sci.,
Columbia Univ., Broadway and 116 St, NEW YORK 27, N.Y., U.S.A.
- A study of nucleo-proteins in development. Photometric analysis of haploid and diploid embryonic tissues. *Rana pipiens* (*Anura*)
- MOORE, C. R. Dr. Prof. — Dept of Zool., Univ. of Chicago, CHICAGO,
Ill., U.S.A. (no data received over some years)
- MOORE, J. A. A.B., M.A., Ph.D., Prof. — Dept of Zool., Fac. of pure Sci.,
Columbia Univ., Broadway and 116 St, NEW YORK 27, N.Y., U.S.A.
- Gastrula ectoderm competence and dorsal lip potency in hybrid embryos tested by xenoplastic and heteroplastic transplantations to diploid hosts. *Rana pipiens* ♀ x *Rana clamitans* ♂ (*Anura*)
 - Embryology. Australian frogs (*Anura*)
- MOOY, Miss H. W. B.Sc. — Zool. Lab. der Rijks Univ., Janskerkhof 3,
UTRECHT, Holland
- Influence of calcium and cyanide on anaerobiosis effects. *Limnaea stagnalis* (*Gastropoda*)
- MORI, H. M.A., Dr Agri., Asst Prof. — Biol. Lab., Keio Univ., Hiyoshi,
Kohoku, YOKOHAMA, Japan
- Insecticide action on eggs, larvae and adults. (*Insecta*)
- MORI, Y. M.A., Prof. — Biol. Lab., Keio Univ., Hiyoshi, Kohoku, YOKO-
HAMA, Japan
- On the cause of disappearance of cutaneous melanophores of young animals. *Carassius auratus* (*Teleostei*)
- MORICARD, R. Dr en Méd., Dr ès Sci. — Lab. d'Hormonol. et Cytol.
expér., Ecole des Hautes Etudes, Univ. Hôpital Broca, 111 Rue L. M.
Nordmann, PARIS XIII^e, France
- Recherches sur la maturation de l'ovocyte. *Oryctolagus cuniculus* (*Lagomorpha*)

- b. Recherches sur la fécondation de l'ovocyte. *Oryctolagus cuniculus* (*Lagomorpha*)
- c. 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)
- d. Utilisation des traceurs dans l'étude des corrélations unissant les gonadotrophines, le liquide folliculaire et la maturation ovulaire. *Mus musculus* (*Rodentia*) (en collaboration avec Miss M. M. C. S. GOTHIE)
- e. Film 16 m.m. sur la fonction méiogène du liquide folliculaire. *Mus musculus* (*Rodentia*)
- MORLON, Miss C. — Lab. d'Embryol., Fac. de Méd., 15 Rue de l'École de Méd., PARIS VIe, France
- a. Retentissement des privations d'oxygène et intoxication par le CO sur des embryons. *Homo* (*Primates*) et *Mus rattus* (*Rodentia*)
- MOSSMAN, H. W. Ph.D., B.S., M.S., Prof. — Dept of Anat., Univ. of Wisconsin, MADISON, Wis., U.S.A.
- a. Comparative morphology of the fetal membranes and reproductive tracts. (*Mammalia*)
- MOTOMURA, I. Dr Sc., Prof. — Lab. of Embryol., Inst. of Biol., Tohoku (Imperial) Univ., SENDAI, Japan
(no data received over some years)
- MUCHMORE, W. B. Ph.D. — Dept of Biol., Coll. of Arts and Sciences. Univ. of Rochester, ROCHESTER 3, N.Y., U.S.A.
- a. Early differentiation of trunk mesoderm. *Ambystoma maculatum* (*Urodela*)
- MULLIGAN, W. J. M.D. — Free Hospital for Women, 245 Pond Ave. BROOKLINE, Mass., U.S.A.
- a. Development of ova from fertilization to 14-days (first missed menstrual period). *Homo* (*Primates*) (in collaboration with A. T. HERTIG, J. ROCK and Miss E. C. ADAMS)
- MULNARD, J. M.D. — Lab. d'Anat. et d'Embryol., Fac. de Méd. de l'Univ., 97 Rue aux Laines, BRUXELLES, Belgique
(no data received on Nov. 1st, 1953)
- MUN, A. M. — Dept of Zool., Indiana Univ., BLOOMINGTON, Ind., U.S.A.
- a. A comparative study of the development of antigenic properties of G- and F-proteins in the early embryo. *Gallus gallus* (*Aves*)
- b. Analysis of the effects of adult or late embryonic tissue transplants on homologous tissues of the host embryo. *Gallus gallus* (*Aves*) — Selective transfer of radioactivity from grafts to homologous host tissues. (in collaboration with J. D. EBERT)
- MURRAY, P. D. F. F.I.I.E., M.A., D.Sc., Prof. — Dept of Zool., Univ. of Sydney, SYDNEY, N.S.W., Australia
- a. Development of the membrane bones of the skull. (*Anura*, *Lacertilia* and *Chelonia*). *Gallus domesticus* (*Aves*)
- b. Development *in vitro* of the scleral bones. *Gallus domesticus* (*Aves*)
- c. Development of secondary cartilage. *Gallus domesticus* (*Aves*)
- MUSTAKALLIO, M. M.D., Prof. — Dept of Anat., Fac. of Med., Helsinki Univ., HELSINKI, Finland
(no data received over some years)

- NACE, G. W. A.B., M.A., Ph.D. — Zool. Dept, Duke Univ., DURHAM, N.C., 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*)
- NAKAMURA, O. Ph.D., Prof. — Lab. of Morphol., Osaka Liberal Arts Univ., IKEDA, Osaka Pref., Japan
- Map of presumptive regions and formative movements. *Triturus*, *Hynobius*, *Rana* (*Amphibia*)
 - Experimental analysis of development of tail. *Triturus* (*Urodela*)
 - Formation of digestive tract. *Rana*, *Triturus*, *Hynobius* (*Amphibia*)
- NAKANO, E. M.A. (Rigakushi) — Biol. Inst., Fac. of Sci., Nagoya Univ., Chigusa-Ku, NAGOYA, Japan
- Respiratory metabolism during early development. Experiments with Cartesian divers. *Oryzias latipes* (*Teleostei*)
 - Studies on the biochemistry of fertilization with special consideration to the role of SS-linkages. *Hemicentrotus pulcherrimus* (*Echinoidea*)
 - Mechanism of monospermy. *Hemicentrotus pulcherrimus* (*Echinoidea*)
- NEEDHAM, A. E. M.A., B.Sc. — Dept of Zool. and Comp. Anat., The Univ. Museum, OXFORD, England (U.K.)
- Nitrogen excretion during regeneration. *Carcinus moenas* Leach (*Decapoda*, *Crustacea*)
- NEEDHAM, J. F.I.I.E., Dr, Prof. — Gonville and Cains Coll., CAMBRIDGE, England (U.K.) (no data received)
- NEF, W. — Zool. Inst. der Univ. Bern, Sahlistr. 8, BERN, Schweiz
- Entwicklungsphysiologie einer Flügel-Borsten-Mutante. *Drosophila* (*Diptera*) (in Zusammenarbeit mit S. ROSIN)
- NEIGER, M. Dr Méd. — Inst. d'Anat., Fac. de Méd., Univ. de Genève, 20 Rue Ecole de Méd., GENÈVE, Suisse
- Etude du développement de l'articulation temporo-mandibulaire.
- NEW, D. A. T. B.A. — Dept of Embryol., Univ. Coll. London, Gower St. LONDON W.C.1, England (U.K.)
- Environmental effects on development. *Gallus domesticus* (*Aves*)
- 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.
- Development. *Drosophila* (*Diptera*)
- NEWELL, G. E. B.Sc., Ph.D. — Dept of Zool., Queen Mary Coll., Univ. of London, Mile End Rd, LONDON E. 1, England (U.K.) (no embryological work in progress)
- NEWITH, D. R. B.Sc., Ph.D. — Dept of Zool. and Comp. Anat., Univ. Coll. London, Gower St, LONDON W.C. 1, England (U.K.)
- The fate of the neural crest. *Lampetra planeri* (*Cyclostomata*)
 - The measurement of the forces involved in neurulation. (*Urodela*)
 - The development of skeleton and muscles of the pelvic girdle and hind limbs. *Xenopus laevis* (*Anura*) (Normal Table)
- 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., Prof. — Osborn Zool. Lab., Yale Univ., NEW HAVEN 11, Conn., U.S.A.
- a. Studies on the egg. *Mus norvegicus* (Rodentia)
 - b. The development of actomyosin in developing muscle. *Mus norvegicus*
 - c. The interaction of the roof of the archenteron upon the nervous system. *Ambystoma punctatum* (Urodela)
 - d. Determination times of tissues and organs. *Mus norvegicus* (Rodentia)
 - e. Factors underlying embryonic form.
 - f. Development of nucleic acids in embryos. *Mus norvegicus* (Rodentia). (Amphibia)
 - g. Development of acidphosphatase. *Mus norvegicus* (Rodentia) (Amphibia)
 - h. Centrifugation and transplantation of eggs. *Mus norvegicus* (Rodentia)
 - j. Culture of eggs and embryos. *Mus norvegicus* (Rodentia)
- NICOLA, Mis M. DE Dr Sci. — Centro di Studio per la Biol. del C.N.R., Stazione Zool., NAPOLI, Italia
- a. Continued investigations on the rôle of pigment in morphogenesis. (*Echinodermata*) (in cooperation with A. MONROY)
- NICOLETTI, B. Dott. — Ist. di Biol. gen., Fac. di Med., S. Pietro, PERUGIA, Italia
- a. Anelli die Liesegang e sviluppo embrionale. *Bufo* (Anura)
 - b. Perossidasi ed emoglobina durante lo sviluppo embrionale. *Bufo vulgaris* (Anura)
- NIESSING, K. Dr Med., a.o. Prof. — Anat. Inst. der Univ., Robert Kochstr. 6, MARBURG Lahn, Deutschland
- a. Entwicklung der autonomen Ganglien. *Xenopus* (Anura)
- NIEUWENHUIS, R. — Anat.-Embryol. Lab., Free Univ., Pr. Hendriklaan 27, AMSTERDAM Z, Holland
- a. Influence of influenza-virus during pregnancy on the developing embryo. *Mus musculus* (Rodentia) (in collaboration with J. LANGMAN)
- NIEUWKOOP, P. D. Phil. Dr — Hubrecht Lab., Internat. Embryol. Inst., Janskerkhof 2, UTRECHT, Holland
- a. Analysis of the regulative potencies of the invaginating archenteron roof and the induced neural plate along the dorso-ventral and cranio-caudal axes, by heteroplastic transplantation of parts of the dorsal blastoporal lip. *Triturus alpestris*, *taeniatus* and *cristatus* (Urodela) (in collaboration with S. TOIVONEN)
 - b. Experimental analysis of the gastrulation process (vital staining and transplantation). *Xenopus laevis* (Anura)
 - c. Descriptive and experimental analysis of the „germinal plasm” in the egg. *Xenopus laevis* (Anura)
 - d. Analysis of the neural induction and subsequent organization of the central nervous system (to be continued). Interaction of embryonic fields. Various species (Urodela)
 - e. Analysis of the changes in neural and epidermal competence of the ectoderm during development. *Ambystoma mexicanum* (Urodela)
 - f. Analysis of the neural induction and subsequent organization of the central nervous system. *Gallus domesticus* (Aves)
 - g. Electron-microscopical analysis of induction and activation of the central nervous system. *Gallus domesticus* (Aves)

- h. The influence of the Li ion on the development of the larval (trochophore) and adult organ systems (segments). *Nereis limbata* (*Annelida*)
- NIGTEVEGHT, G. van — Hubrecht Lab., Internat. Embryol. Inst., Janskerkhof 2, UTRECHT, Holland
- a. Spreading of neural activation in competent ectoderm in explants. (*Urodela*)
- 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*)
- NILSSON, Miss A. E. A. Fil.Mag. — Inst. for Zoophysiol., Uppsala Univ., UPPSALA, Sweden
- a. The mechanism of agglutination of spermatozoa. (*Mammalia*)
- NISHITSUTSUJI, Miss 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 — Dept of Biol. Sci., Stanford Univ., STANFORD, Cal., U.S.A.
- a. The differentiation of macrophages into melanophores following their ingestion of pigmentary debris released by degeneration of preexisting melanophores. (*Amphibia*) (in collaboration with V. C. TWITTY)
- b. The migratory behaviour of single neural crest melanoblasts isolated in capillary tubes of extremely small bore. (*Amphibia*) (in collaboration with V. C. TWITTY)
- c. The role of mesodermal cells in epidermis formation. (*Amphibia* and *Mammalia*)
- NÜESCH, H. Dr Sc., P.D. — Zool. Anstalt der Univ., Rheinsprung 9, BASEL, Schweiz
- a. Einfluss des Nervensystems auf die Entwicklung anderer Organe. *Telega polyphemus* (*Saturnidae*, *Lepidoptera*)
- b. Entwicklung der imaginalen Muskeln. *Telega polyphemus* (*Saturnidae*, *Lepidoptera*)
- NYHOLM, K. G. Fil.Dr — Zool. Inst., Uppsala Univ., UPPSALA, Sweden
- a. Study of the development. (*Echinoderidae*, *Aschelminthes*)
- b. Study of the development. *Labidoplax buskii* (*Echinodermata*)
- c. Study of the life-history of monothalamous forms. (*Rhizopoda*)
- O'BRIEN, B. R. A. — Dept of Histol. and Embryol., Univ., of Sydney, SYDNEY, N.S.W., Australia
- a. Ezymatic pattern in normal and regenerating tissue in relation to capacity for, and rate of regeneration. (*Annelida*)
- 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* and *Ambystoma punctatum* (*Urodela*)
- b. Spindle-cell sarcoma of adult animals. *Triturus viridescens* and *Ambystoma punctatum* (*Urodela*)

- c. Radiosensitivity in relation to temperature prevailing during exposure. *Rana catesbiana*, *Rana pipiens*, *Triturus viridescens* (*Amphibia*); *Mus rattus* (*Rodentia*) and *Oryctolagus cuniculus* (*Lagomorpha*)
- O'CONNOR, R. J. M.D., D.T.M. — Westminster Med. School, Horsferry Rd. LONDON S.W.1, England (U.K.)
- The metabolism of cell division and cell differentiation. (*Vertebrata*)
 - Metabolic measurement during ontogenesis. (*Aves*)
- OKA, H. Ph.D. (Tokyo), Prof. — Inst. of Zool., Univ. of Education, Otsuka-Kubomachi 24, Bunkyo-ku, TOKYO, Japan
- Limb induction. *Hynobius tokyoensis* (*Urodela*)
 - Budding in various species. („Compound“ *Ascidiae*)
 - Experimental studies on metamorphosis in various species. („Compound“ *Ascidiae*)
- OKADA, T. — Lab. of Embryol. and Exper. Morphol., Zool. Inst., Dept of Sci., Kyoto Univ., KYOTO, Japan
- Developmental mechanism of entoderm differentiation. *Triturus pyrrhogaster* and *Hynobius nebulosus* (*Urodela*)
 - Role of the yolk mass in early morphogenetic movement. *Triturus pyrrhogaster* and *Hynobius nebulosus* (*Urodela*)
 - Regional differences of induced structure.
- OKADA, Y. K. F.I.I.E., Dr, Prof. — Zool. Inst., Fac. of Sci., Tokyo Univ., TOKYO, Japan
- OKAZAKI, Miss K. — Embryol. Section, Dept of Biol., Tokyo Metropolitan Univ., Setagaya-ku, TOKYO, Japan
- Metamorphosis of partial larvae. *Peronella* (*Clypeastroidea*, *Echinoidea*)
 - A study of skeleton formation. (*Echinodermata*)
- OKAZAKI, R. M.A. (Rigakushi) — Biol. Inst., Fac. of Sci., Nagoya Univ., Chigusa-Ku, NAGOYA, Japan
- Studies on the proteins of the early embryo. (1) Fractionation and physico-chemical characterization of the proteins; (2) Inducing capacity of the various proteins; (3) Regional and temporal changes of the protein fractions; (4) Physical effects of Li and SCN on the proteins; (5) Inducing capacity of the organizer region free from nucleic acids. *Triturus* (*Urodela*) (in collaboration with S. OSAWA)
 - Role of energy-rich phosphate bond in the cortical change of eggs. Various species (*Echinodermata*)
 - Effect of dinitrophenol on the organizer action. *Triturus* (*Urodela*)
- OKSCHE, A. A. Dr Med. — Anat. Inst. der Univ., Robert Kochstr. 6. MARBURG Lahn, Deutschland
- Änderungen des Kaulquappen-Wachstums nach beiderseitiger Augen-Extirpation. Es soll hierbei die Rolle des Hypophysen-Zwischenhirn-Systems und der Epiphyse untersucht werden. *Bufo vulgaris* (*Anura*)
 - Die Feinstruktur der Sinneszellen des Organon frontale bei qualitativ und quantitativ modifiziertem Lichtreiz. Verhalten der spezifischen, mit Eisen-Haemotoxylin färbbaren Zellstrukturen während des Individualzyklus. *Bufo vulgaris* (Larven) (*Anura*)
- OLIVO, O. M. Med.Dr, Ord.Prof. — Ist. di Istol. e Fisiol. gen., Fac. di Med., Via Belmeloro 8. BOLOGNA, Italia
(no data received over some years)

- OLSSON, R. Fil.mag. — Zootom. Inst., Univ. of Stockholm, 116 Drottninggatan, STOCKHOLM, Sweden
- a. Development of the anterior hypophysis. *Larus ridibundus* (*Aves*)
Polypterus (*Brachiopterygii*)
- OMODEO, P. Dr Sci. — Ist. di Biol. e Zool. gen., Fac. di Med., Piazza S. Agostino 4, SIENA, Italia (no data received on Nov. 1st, 1953)
- OORT, J. — Lab. for Exper. Histol., Fac. of Med., Univ. of Leyden, Wassenaarseweg, Boerhaavekwartier, LEIDEN, Holland
- a. Development of the anterior hypophysis. *Larus ridibundus* (*Aves*)
- OPPENHEIMER, Miss J. M. B.A., Ph.D. — Dept of Biol., Bryn Mawr Coll., BRYN MAWR, Pa, U.S.A.
- a. Experimental analysis of regional determination within the brain. *Fundulus heteroclitus* (*Teleostei*)
- ORLANDI, Miss A. Dott Sci Biol. — Ist. di Zool. e Anat. Comp., Univ. di Milano, Via Celoria 10, MILANO, Italia
- a. Nucleoproteins and chromosomes. (*Vertebrata*)
- b. Yolk granula. (*Amphibia*)
- ORSINI, Mrs M. C. WARD — Ph.D., B.A. — Dept of Anat., Univ. of Wisconsin, MADISON, 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, WROCŁAW, Poland
- a. Development of the vertebral column centra. (*Salmonidae* and *Cyprinodontidae*, *Teleostei*)
- ORTOLANI, Miss G. Dr — Ist. di Zool., Via Archirafi 18, PALERMO, Italia
- a. Morphogenetic movements. (*Ascidiae*)
- b. Structure and potencies of the egg before cleavage. (*Ascidiae*)
- ORTS LLORCA, F. Prof. — Lab. de Anat. y Embryol., Fac. de Med., CADIZ, Spain
- a. Embryology of the lungs. (*Mammalia*)
- b. Cyclopy. *Homo sapiens* (*Primates*)
- OSAWA, S. M.A. (Rigakushi) — Biol. Inst., Fac. of Sci., Nagoya Univ., Chigusa-Ku, NAGOYA, Japan
- a. Studies on the proteins of the early embryo. (1) Fractionation and physico-chemical characterization of the proteins; (2) Inducing capacity of the various proteins; (3) Regional and temporal changes of the protein fractions; (4) Physical effects of Li and SCN on the proteins; (5) Inducing capacity of the organizer region free from nucleic acids. *Triturus* (*Urodela*) (in collaboration with R. OKAZAKI)
- b. Role of pentose-nucleic acid in protein synthesis of various embryonic tissues. (*Vertebrata* and *Evertebrata*)
- c. Biochemical and histological studies of oogenesis. *Triturus pyrrhogaster* (*Urodela*) (in collaboration with Y. HAYASHI)
- OVERTON, Mrs J. Dr — Dept of Zool., Univ. of Chicago, CHICAGO 37, Ill., U.S.A.
- a. Mitogenesis.
- OZBURN, R. H. B.S.A., M.Sc. — Dept of Entomol. and Zool., Ontario Agricultural Coll., GUELPH, Ont., Canada
- a. Gassing effects in eggs during incubation. *Meleagris* (*Galli*, *Aves*)

- PADOA, E. Dr, Prof. — Ist. di Biol. e Zool. gen., Fac. di Med., Piazza S. Agostino 4, SIENA, Italia
(no embryological work in progress)
- PADYKULA, Miss H. A. B.S., M.A., Ph.D. — Dept of Obstetrics and Anat., Harvard Med. School, 25 Shattuck Str., BOSTON 15, Mass., U.S.A.
- a. Histochemical studies on the liver of the embryonic and post-natal animal to determine the onset of functional activities. *Rattus norvegicus* (*Rodentia*)
- PAI, S. F.I.I.E., Dr rer.nat. — Lab. of Developm. Physiol., Inst. of Exper. Biol., Acad. Sinica, 865 Chang Ning Rd, SHANGHAI, China
(no data received over some years)
- PALAZZO, Miss F. Dr — Ist. di Zool., Via Archirafi 18, PALERMO, Italia
- a. Xenoplastic entoderm transplantations. (*Amphibia*)
- PANTELOURIS, E. M. B.Sc. (Athens and London) — Inst. of Animal Genet., Univ. Dept of Genet., King's Buildings, West Mains Rd, EDINBURGH 9, Scotland (U.K.)
- a. Ovary transplants for detection of host effects on growth and antigenic properties. *Drosophila* (*Diptera*)
 - b. Transplantation of nuclei. *Triton* (*Urodela*) (in collaboration with C. H. WADDINGTON)
- PAPI, F. Dott. in Sci. — Ist. di Zool. e Anat. Comp. dell'Univ., Via A. Volta 4, PISA, Italia
- a. Reproduction and cytology. (*Rhabdozoela*, *Turbellaria*)
- PARDI, L. Lib. Doc. — Ist. di Zool. e Anat. Comp. dell'Univ., Via A. Volta 4, PISA, Italia
(no data received on Nov. 1st, 1953)
- PARIS, Miss A. J. B.Sc. — Hubrecht Lab., Internat. Embryol. Inst., Janskerkhof 2, UTRECHT, Holland
- a. Preparation of the catalogue of the Central Embryological Collection of slides and alc. material of the Hubrecht Laboratory. (*Mammalia*)
- PARNELL, I. W. B.A., Ph.D. — Dept of Zool., Univ. of Edinburgh, West Mains Rd, EDINBURGH 9, Scotland (U.K.)
- a. Effect of temperature on the development of the free living stages. (*Bursate Nematoda*)
- PASCHMA, M. M.Ph. — Zakład Zool. Ogólnej, Inst. Zool. Univ. we Wrocławiu, ul. Sienkiewicza 21, WROCŁAW, Polska (Poland)
(no data received over some years)
- PASQUINI, P. Ph.D., Prof. — Ist. di Anat. Comp., Via Belmeloro 8, BOLOGNA (103), Italia
- a. Effects of antimetotics on early development and on lens-regeneration. *Rana esculenta*, *Triton* and *Ambystoma* (*Amphibia*) (in collaboration with Miss I. DE CESARE)
 - b. Effects of antimetotics on the regeneration of peripheral nerves. (*Urodela* and *Anura*) (in collaboration with S. LEGHISSA)
 - c. Effects of low temperature on early development. (*Amphibia*) (in collaboration with L. RAUNICH)
- PASTEELS, J. J. F.I.I.E., M.D., Agr. Ens. sup., Prof. — Lab. d'Anat. et d'Embryol., Fac. de Méd. de l'Univ., 97 Rue aux Laines, BRUXELLES, Belgique

- a. Cytochemical observations on the first developmental stages. (*Amphibia*) (in collaboration with J. L. A. BRACHET)
- b. The early development from late neurula stage to an advanced tailbud stage (esp. morphological data for experimental work). *Xenopus laevis* (*Anura*) (Normal Table)
- PATANE', L. Dr. Aiuto — Ist. di Zool. e Anat. comp., Via Androne 25, CATANIA, Italia (no data received over some years)
- PATTEN, B. M. Ph.D., Prof. — Dept of Anat., Med. School, Univ. of Michigan, 2500 East Med. Bldg, ANN ARBOR, Mich., U.S.A. (no data received over some years)
- PEHRSON, G. T. Dr Phil., Prof. — Zootom. Inst., Univ. of Stockholm, 116 Drottninggatan, STOCKHOLM, Sweden
- a. Development and morphology of the skull and of the lateralis system. (*Osteoglossidae* and *Characinidae*, *Teleostei*)
- b. Ontogeny of the skull. *Polypterus* (*Crossopterygii*)
- PENFOLD, R. A.B. — Dept of Anat., Med. School, Univ. of Kansas, LAWRENCE, Kansas, U.S.A.
- a. Reconstruction of brain and cranial nerves of the first 4 Coghill stages. *Ambystoma maculatum* (*Urodela*) (in collaboration with P. ROOFE)
- PENTZ, Miss K. M.Sc. — Zool. Inst., Univ. of Stellenbosch, STELLENBOSCH, South Africa
- a. Ontogenesis of the skull. *Hynobius fuscus* (*Urodela*)
- PERLMANN, H. P. — Wenner-Grens Inst. for experimental Biology, Norr-tullsgatan 16, STOCKHOLM Va., Sweden (no data received on Nov. 1st, 1953)
- PERRI, T. Dott., Prof. — Ist. di Anat. Comp. dell'Univ., Fac. di Sci., Via Borelli 50, ROMA, Italia
- a. Ricerche sull'induzione di arti sopranumerari. (*Anura*)
- b. Trapianti embrionali di abbozzi di arti. (*Anura*)
- c. Esperienze sulla regione sacrale. (*Anura*)
- d. La simmetria speculare in biologia.
- e. Esperienze sulla competenza embrionale e larvale.
- PESONEN, S. K. Dr phil. — Dept of Physiol., Zool. Lab., Fac. of Mathem. and Nat. Sci., Univ. of Helsinki, F. Rautatiekatu 13, HELSINKI, Finland
- a. On the effect of acetic acid on the early ontogenetic development. *Triturus* (*Urodela*)
- PETER, K. F.I.I.E., Dr, Prof. (Emer.) — BIRKENSTEIN, Post FISCHBACHAU, Oberbayern, Deutschland
- 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. (*Aves*)
- c. Einfluss der Pinealektomie auf die Postembryonalentwicklung. *Lebistes reticulatus* (*Teleostei*)
- PIATT, J. A.B., M.A., Ph.D., Assoc.Prof. — Dept of Anat., School of Med., Univ. of Pennsylvania, PHILADELPHIA 4, Pa, U.S.A.
- a. Regeneration of central nervous system in embryonic and adult stages. *Ambystoma punctatum* and *tigrinum* (*Urodela*)

- b. Nerve pattern in heterotopically transplanted embryonic limbs. *Ambystoma punctatum* and *tigrinum* (*Urodela*)
- PIEPHO, H. Dr Phil., Prof. — Zool. Inst. der Univ. Göttingen., Mathem.-Naturw. Fak., Bahnhofstr. 28, GÖTTINGEN, Deutschland
- a. Metamorphose. *Galleria mellonella* (*Lepidoptera*)
- PIERAGNOLI, U. — Ist. di Zool. e Anat. Comp. dell'Univ., Via A. Volta 4, PISA, Italia
- a. Gametogenesis and cytology. *Dugesia lugubris* (*Turbellaria*)
- PINCUS, G. Dr. Prof. — Worcester Foundation for Exper. Biology, 222 Maple Ave, SHREWSBURY, Mass., U.S.A.
(no data received on Nov. 1st, 1953)
- PISANO, A. Dr Biol.Sc. — Inst. de Zool., Univ. Nac. de Tucumán, Miguel Lillo 205, TUCUMAN, Argentina, S. America
(no data received over some years)
- PLETZEN, R. van D.Sc. (Stellenbosch) — Dept of Zool., Univ. of O.F.S., BLOEMFONTEIN, South Africa
- a. Ontogenesis of skeleton and muscles of shoulder girdle and forelimbs. *Xenopus laevis* (*Anura*) (Normal Table)
- POLLICITA, Miss M. Dr — Ist. di Zool., Via Archirafi 18, PALERMO, Italia
- PORTMANN, A. Dr Phil., Prof. — Zool. Anstalt der Univ., Rheinsprung 9, BASEL, Schweiz
(no embryological work in progress)
- POULSON, D. F. 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*)
- PRETO PARVIS, Mrs V. Dott.Med., Prof. — Ist. di Anat. umana norm. dell'Univ. di Milano, Via Mangiagalli 31, MILANO, Italia
- a. Modifications of contents in nucleinic acids and of the nuclear apparatus in nervous cells during development in relation with their degree of growth and functional maturity (Methods: Piekarsky-Robinow; Feulgen: Golgi; Cajal). (*Mammalia*)
- b. Morphological and histochemical studies of histogenesis of chondroid and mucous tissues. (*Aves* and *Mammalia*)
- c. Histochemical study of histogenesis of cartilage. *Mus rattus* (*Rodentia*)
(in collaboration with G. RONCORONI)
- PRIESCHING, A. M.D. — Anat. Inst. der Univ. Wien, Währingerstr. 13, WIEN IX, Oesterreich
- a. Development of cysto-colic fold, Omentum colicum Halleri and other derivatives of the right part of the Omentum maius. *Homo sapiens* (*Primates*)
- b. Involution of omphalomesenteric artery. *Homo sapiens* (*Primates*)
- PROP, N. B.Sc. — Anat.-Embryol. Lab. der Rijks Univ., Oostersingel 69, GRONINGEN, Holland
- a. Development of the egg by means of vital staining. *Ambystoma* (*Urodela*)
- QUÉNU, L. Dr en Méd. — Lab. des Travaux Anat., Fac. Méd. Nouvelle, 43 Rue des St Peres, PARIS VIe, France
- a. Développement de l'appareil respiratoire. *Homo* (*Primates*)

- QUERNER, H. Dr rer.nat. — Inst. für exp. Krebsforschung der Univ. Heidelberg, Vossstrasse 3, HEIDELBERG, Deutschland
- a. Hormonphysiologische Untersuchungen. (*Cyprinodontidae, Teleostei*)
 - b. Differenzierung primärer und sekundärer Geschlechtsorgane in vitro (*Cyprinodontidae, Teleostei*)
- RADECKA, Mrs E. M.Ph. — Zakład Zool. Ogólnej, Inst. Zool., Univ. we Wrocławiu, ul. Sienkiewicza 21, WROCŁAW, Polska (Poland)
(no data received over some years)
- 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 (Primates)*
- RAMULT, M. Ph.D. — Dept of Zool., Univ. of Edinburgh, West Mains Rd, EDINBURGH 9, Scotland (U.K.)
(no data received on Nov. 1st, 1953)
- RANDALL, J. T. Prof., F.R.S. — M.R.C. Biophysics Res. Unit, King's Coll., Strand, LONDON W.C. 2, England
(no data received over some years)
- RANZI, S. F.I.I.E., Ph.D., Prof. — Ist. di Zool. e Anat. Comp., Univ. di Milano, Via Celoria 10, MILANO, Italia
- a. Proteins in embryonic determination. (*Echinodermata and Amphibia*)
 - b. Protoplasmic structure.
- RANZOLI, F. Dr — Ist. di Zool. e Anat. comp., Via Università 4, MODENA, Italia
- a. Nucleolar changes and cycle of the ribonucleic acids during oogenesis. *Patella coerulea (Gastropoda)*
 - b. Sexual differentiation and hermaphroditism. *Hydroides norvegica (Serpulidae, Polychaeta)*
- RAPPAPORT Jr, R. B.S., M.S., Ph.D. — Biol. Dept, Union Coll., SCHENECTADY 8, N.Y., U.S.A.
(no data received on Nov. 1st, 1953)
- RAUNICH, L. Ph.D., M.D. — Ist. di Anat. Comp., Via Belmeloro 8, BOLOGNA (103), Italia
- a. Development of blood and vascular system. *Petromyzon (Cyclostomata), Amia and Lepidosteus (Holostei)*
 - b. Action of growth-substances on tail-regeneration. *Rana, Bufo (Anura)*
 - c. Determination of neural plate. *Triton, Ambystoma (Urodela)*
 - d. Neural crest development. (*Amphibia*)
 - e. Effect of low temperature on early development. (*Amphibia*) (in collaboration with P. PASQUINI)
 - f. Action of carcinogenic hydrocarbons. (*Amphibia*)
 - g. Ketosteroids during development (chemical detection). (*Amphibia*)
- RAVEN, Chr. P. F.I.I.E., F.R.A., Dr Sc., Prof. — Zool. Lab. der Rijks Univ., Janskerkhof 3, UTRECHT, Holland
- a. Analysis of lithium action. *Limnaea stagnalis (Gastropoda)* (in collaboration with Miss C. DINGER, W. J. van DONGEN, B. de GROOT, Miss H. E. van HEYNINGEN and C. R. JANSSEN)
 - b. Influence of lithium on morphogenesis. *Aplysia limacina (Gastropoda)*
- RAWLES, Miss M. E. Ph.D. — Dept of Biol., The Johns Hopkins Univ. Charles and 34th Sts, BALTIMORE 18, Md, U.S.A.

- a. Analysis of the development of regional differences in feather color pattern. Factors affecting the distribution and development of melanin pigment-forming cells. *Gallus domesticus* (*Aves*)
 - b. Analysis of the processes involved in the development of pigmentation and pigmentation patterns in the hair and skin. *Mus spec.* ("Hooded rat") and *Mus spec.* ("C57" Black Mouse) (*Rodentia*)
 - c. The origin and development of the dermis. *Gallus domesticus* (*Aves*) and *Mus spec.* ("C57" Black Mouse) (*Rodentia*)
 - d. The origin and development of the trunk musculature. *Gallus domesticus* (*Aves*)
- RAYNAUD, A. Dr ès Sc. — Lab. d'Embryol. du Lab. Pasteur de l'Inst. du Radium, 26 Rue d'Ulm, PARIS Ve, France
(no data received over some years)
- REAMS, Jr, W. M. B.S. — Dept of Biol., The Johns Hopkins Univ., Charles and 34th Sts, BALTIMORE 18, Md, U.S.A.
- a. The cytology of differentiating neural crest cells utilizing phase microscopy. *Gallus domesticus* (*Aves*)
- REILLY, T. D. M.B., Ch.B. — Dept of Anat., Univ. of Liverpool, LIVERPOOL, England (U.K.)
- a. Regeneration of the thyroid gland following ischaemia. (*Mammalia*)
- REINBOLD, R. Lic. ès Sci. — Lab. de Zool. de la Fac. des Sci. et Lab. d'Embryol. et Tératol. expér. du C.N.R.S., Inst. de Zool. et de Biol. gén., 12 Rue de l'Université, STRASBOURG, France
- a. Différenciation sexuelle normale et conditionnement hormonal du tubercule génital chez l'embryon. *Gallus* (*Aves*)
 - b. Le développement et la différenciation de l'oeil en cultures *in vitro*. *Gallus* (*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* and *Felis domestica* (*Carnivora*)
 - b. A study of the anomalous renal vessels and inferior vena cava. *Homo sapiens* (*Primates*)
- REMOTTI, E. Dott. Med. e Chirurg., Prof. — Ist. di Anat. e Fisiol. Comp., Univ. di Genova, GENOVA, Italia
- a. Correlazioni embrionali. Antagonismo epitelio vasi.
 - b. Correlazioni epitelio vasi e loro importanza nella genesi delle neoplasie.
- REVERBERI, G. F.I.I.E., Dr, Prof. — Ist. di Zool., Via Archirafi 18, PALERMO, Italia
- a. The morphogenetic rôle of the yolk material, studied by means of hetero-specific transplantations and of treatment with chemical substances. (*Amphibia*) *Urochordata*
 - b. The development of the egg after treatment with chemicals. (*Ascidiae*)
- REYER, R. W. Ph.D. — Dept of Anat., School of Med., Univ. of Pittsburgh, PITTSBURGH 13, Pa, U.S.A.
- 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*, *Salamandra salamandra*, *Ambystoma punctatum* (*Urodela*) (in collaboration with L. S. STONE, New Haven)

- b. A study of lens induction: an analysis of lens induction in terms of the duration of lens inducing capacity in the eye anlage and of lens competence in the flank ectoderm. *Triturus viridescens*, *Ambystoma punctatum* (*Urodela*)
- REYNOLDS, S. R. M. A.B., M.A., Ph.D.; D.Sc., Dr hon.Causa (Univ. Catol. de Chile) — Dept of Embryol., Carnegie Inst. of Washington, Wolfe and Madison Sts, BALTIMORE 5, Md, U.S.A.
- a. Fetal vascular physiology. *Homo*, *Lepus* and *Ovis* (*Mammalia*)
- b. Uterine contraction patterns. *Homo* (*Primates*)
- c. Pulmonary vasculature, fetal and neonatal condition. *Ovis* (*Artiodactyla*)
- d. Architecture of umbilical blood vessels, distended and non-distended. *Homo* (*Primates*)
- RHODES, S. A. M.A. — Franklin Coll., FRANKLIN, Ind., U.S.A.
- a. Further histochemical study of lens development. *Hyla versicolor* (*Anura*), *Ambystoma punctatum* (*Urodela*)
- RICHTER, K. M. B.A., M.A., Ph.D., Assoc.Prof. — Dept of Anat., School of Med., Univ. of Oklahoma, OKLAHOMA CITY, Okla., U.S.A.
(no data received on Nov. 1st, 1953)
- RINALDINI, L. M. — Strangeways Research Lab., Wort's Causeway, CAMBRIDGE, England (U.K.)
(no data received on Nov. 1st, 1953)
- RINGERTZ, N. — Embryol. Dept., Histol. Inst., Karolinska Inst., Solnavägen 1, STOCKHOLM 60, Sweden
- a. Incorporation of sulphur in fetus. *Rattus norvegicus* and *Cavia cobaya* (*Rodentia*) (in collaboration with U. FRIBERG)
- RISLEY, P. L. A.B., M.S., Ph.D., Prof. — Dept of Biol., Univ. of Oregon, EUGENE, Ore., U.S.A. (no data received over some years)
- RIZZOLI, C. M.D., Dr — Ist. di Istol. e Fisiol. gen., Fac. di Med., Via Belmeloro 8, BOLOGNA, Italia
(no data received over some years)
- ROBERTSON, G. G. Ph.D., Prof. — Dept of Anat., Coll. of Med., Baylor Univ., 1200 M.D. Anderson Blvd, Texas Med. Center, HOUSTON 5, Tex., U.S.A.
(no data received over some years)
- ROCK, J. M.D. — Free Hospital for Women, 245 Pond Ave, BROOKLINE, Mass., U.S.A.
— Harvard Univ. Med. School, Dept of Gynecology, 25 Shattuck Str., BOSTON 15, Mass., U.S.A.
- a. Development of ova from fertilization to 14-days (first missed menstrual period). *Homo* (*Primates*) (in collaboration with A. T. HERTIG, W. J. MULLIGAN and Miss E. C. ADAMS)
- ROLLHÄUSER, H. Dr Med. — Anat. Inst. der Univ., Robert Kochstr. 6. MARBURG/Lahn, Deutschland
- a. Änderungen in der Ultrastruktur der Sehnen nach Lähmung des zugehörigen Muskels und nach Wiederherstellung der Funktion. Es wird die Beziehung zwischen Feinbau und Beanspruchung der Sehnen untersucht in allen Altersstadien von der Geburt an. *Cavia cobaya* (*Rodentia*)
- 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*)
- ROMANKOWA, Mrs A. M.Sc. — Zakład Anat. Porównawczej, Inst. Zool. Univ., ul. Sienkiewicza 21, WROCLAW, Poland
- a. Development of sesamoid bones in the carpus. (*Rodentia*, *Insectivora*)
- RONCORONI, G. — Ist. di Anat. umana norm. dell'Univ. di Milano, Via Mangiagalli 31, MILANO, Italia
- a. Histochemical study of histogenesis of cartilage. *Mus rattus* (*Rodentia*) (in collaboration with Mrs V. PRETO PARVIS)
- ROOFE, P. G. Ph.D., Prof. — Dept of Anat., Univ. of Kansas, LAWRENCE, Kansas, U.S.A.
- a. Cytochemical and microchemical study of the developing nervous system and its relationship to developing behaviour patterns. *Ambystoma maculatum* (*Urodela*) (in collaboration with Mrs E. L. WENGER)
- ROON, A. C. de B.Sc. — Zool. Lab. der Rijks Univ., Janskerkhof 3, UTRECHT, Holland
- a. Influence of heat shock. *Limnaea stagnalis* (*Gastropoda*) (in collaboration with G. A. VAN ERKEL and A. M. STADHOUDERS)
- b. Development of diencephalon. *Torpedo marmorata* (*Selachii*)
- ROOSEN-RUNGE, E. C. M.D. — School of Med., Univ. of Washington, SEATTLE 5, Wash., U.S.A.
- a. Quantitative studies in spermatogenesis. (*Mammalia*)
- ROSE, S. M. Ph.D., Prof. — Dept of Zool., Univ. of Illinois, URBANA, Ill., U.S.A.
- a. Embryological studies in relation to regeneration, tumor formation and specific inhibition of embryonic differentiation. *Rana*, various spec. (*Anura*)
- ROSENBAUM, R. M. B.S., Ph.D. — Biol. Lab., Harvard Univ., CAMBRIDGE 38, Mass., U.S.A. (no data received over some years)
- ROSIN, S. Dr, P.D. — Zool. Inst. der Univ. Bern, Sahlistr. 8, BERN, Schweiz
- a. Borstenmuster und Flügelentwicklung. *Drosophila* (*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 (U.K.)
- a. The development of the genital tract. *Ovis aries* (*Artiodactyla*)
- ROSSINI, Miss M. C. Ph.D. — Ist. di Anat. Comp., Via Belmeloro 8, BOLOGNA (103), Italia
- a. Action of podophyllin on early development. *Rana* (*Anura*)
- b. Analysis of formative movements during neurulation (with vital stains). (*Amphibia*)
- ROSTAND, J. — 29 Rue Pradier, VILLE d'AVRAY, (Seine-et-Oise), France
- a. Parthénogenèse et gynogenèse. Régulation chromosomique par le froid. (*Amphibia*)
- b. Mutations (Polydactylie, Ectrodactylie, etc.): comportement héréditaire et physiologie génétique. (*Amphibia*)

- c. Modifications des noyaux au cours de l'ontogenèse. (*Amphibia*)
 d. Survie de l'ovule *in vitro*, à basse température. (*Amphibia*)
- ROTHFELS, U. Ph.D. — Div. of Chem. Embryol., Med. Center, Univ. of Colorado, 4200 East Ninth Ave, DENVER 20, Col. U.S.A.
- a. Study of differentiation of somites in explants (Spratt technique). *Gallus (Aves)* (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)
- RÓŻEWSKA, Miss J. W. Physician — Inst. of Histol. & Embryol., Acad. of Med., Narutowicza 60, ŁÓDZ, Poland *Gallus (Aves)*
 a. Influence of sulphonamides on the development of germinal layers.
 b. Influence of sulphonamides on the size of embryos. *Gallus (Aves)*
- RUDEWICZ, Mrs Cz. Physician — Inst. of Histol. & Embryol., Acad. of Med., Narutowicza 60, ŁÓDZ, Poland
 a. Influence of sulphonamides on the structure of cell nuclei. *Gallus (Aves)*
 b. Influence of sulphonamides on the size of embryos. *Gallus (Aves)*
- RUDNICK, Miss D. Ph.D. — Osborn Zool. Lab., Yale Univ., NEW HAVEN 11, Conn.
 — Dept of Pharmacol., the N.Y. Psychiatric Inst., 722 W. 168 St, NEW YORK 32, N.Y., U.S.A.
 a. Protein-synthesising mechanisms in development. *Gallus (Aves)*
- RUGH, R. A.B., M.A., Ph.D. — Radiological Research Lab., Dept of Radiology, Coll. of Physicians & Surgeons, Columbia Univ., 630 West 168th Str., NEW YORK 32, N.Y., U.S.A.
 a. Radiobiology.
 b. Experimental Embryology.
 c. Effect of ionizing radiations on the fetus.
- RUNNER, M. N. Ph.D. — Roscoe B. Jackson Mem. Lab., BAR HARBOR, Me, U.S.A. (no data received on Nov. 1st, 1953)
- RUNNSTRÖM, J. A. M. F.I.I.E., Ph.D., M.D., Prof. — Wenner-Grens Inst. for experimental Biology, Norrtullsgatan 16, STOCKHOLM Va., U.S.A. (no data received on Nov. 1st, 1953)
- RUUD, Miss G. Cand. real. — Zool. Lab., Univ. of Oslo, OSLO-BLINDERN, Norway
 a. Anatomical investigation of forelimbs transplanted to the hindlimb region in embryos. *Ambystoma mexicanum (Urodela)*
- RYKE, P. A. J. M.Sc., Ph.D. — Dept van Dierkunde, Potchefstroom Univ., POTCHEFSTROOM, Suid-Afrika
 (no data received on Nov. 1st, 1953)
- SABBADIN, A. Dr — Ist. di Zool. e Anat. Comp., Fac. di Sci., Via Loredan 6, PADOVA, Italia
 a. Differentiation of gonads. (*Amphibia*)
 b. Sex differentiation. (*Ascidiae*)
- SACERDOTE, Miss M. Dr — Inst. of comp. Anat., Via Giovanni Giolitti 34, TORINO, Italy (no embryological work in progress)
- SALA, M. Dr — Ist. di Zool. e Anat. Comp., Fac. di Sci., Via Loredan 6, PADOVA, Italia
 a. Neurogenesis. (*Amphibia*)

- SALZGEBER, Miss B. Lic. ès Sci. — Lab. de Zool. de la Fac. des Sci. et Lab. d'Embryol. et Tératol. expér. du C.N.R.S., Inst. de Zool. et de Biol. gén., 12 Rue de l'Université, STRASBOURG, France
- Recherches sur l'action d'agents physiques et chimiques sur la différenciation sexuelle.
 - Recherches sur l'intersexualité expérimentale produite par irradiation aux rayons X. (*Aves*) (en collaboration avec Et. WOLFF)
 - Action de substances chimiques sur les gonades embryonnaires cultivées *in vitro*.
- SANDE, Miss A. van der B.Sc. — Hubrecht Lab., Internat. Embryol. Inst., Janskerkhof 2, UTRECHT, Holland
- Analysis of the extra-neural extension of the activation field in normal development. (*Urodela*)
- SANDISON, Miss E. E. B.Sc. (Hons) — Dept of Zool., Univ. of Edinburgh, West Mains Rd, EDINBURGH 9, Scotland (U.K.)
- The indentification of the Nauplii of some South African forms with notes on their life histories. (*Cirripedia*)
- SANTLER, Miss J. E. B.Sc. — Dept of Embryol., Univ. Coll. London, Gower St, LONDON W.C.1, England (U.K.)
- Regeneration and induced proliferation in the adult. *Rattus norvegicus* (*Rodentia*) (in collaboration with M. ABERCROMBIE)
- SATO, T. D.Sc., Dr Phil. nat., Prof. — Biol. Inst., Fac. of Sci., Nagoya Univ., Chigusa-Ku, NAGOYA, Japan
- Linsenbildende Potenz des Pigmentepithels. *Hynobius tokyoensis* (*Urodela*) und *Rana temporaria* (*Anura*)
 - Linsenregeneration. *Cobitidinae* (und verwandte *Teleostei*)
- SAUNDERS, J. W. B.S., M.S., Ph.D. — Dept of Biol., Marquette Univ., 1217 West Wisconsin Ave, MILWAUKEE 3, Wis., U.S.A.
- Identification of prospective pigment cells. *Gallus domesticus* (*Aves*) and *Mus musculus* (*Rodentia*)
 - Factors affecting the rate of melanin synthesis in embryonic tissues. *Gallus domesticus* (*Aves*) and *Mus musculus* (*Rodentia*)
 - The role of the ectoderm in the development of the wing. *Gallus domesticus* (*Aves*)
 - An analysis of the factors affecting tract-specificity in embryonic feather areas. *Gallus domesticus* (*Aves*)
 - Effect of temperature on X-ray resistance of embryonic tissues. *Gallus domesticus* (*Aves*) and *Mus musculus* (*Rodentia*)
- SAUSER, G. Dr, Dr, Mr, Prof. — Histol.-Embryol. Inst. der Univ., INNSBRUCK, Tyrol, Austria
- Morphomechanik. *Homo* (*Primates*)
 - Histophysiologie und quantitative Cytologie.
 - Färbungs- und Konservierungstechnik. *Homo* (*Primates*)
- SAWIN, P. B. Sc.D., Prof. — Roscoe B. Jackson Memorial Lab., Box 558, BAR HARBOR, Me, U.S.A. (no data received over some years)
- SAXÉN, L. O. M.A., B.M. — Zool. Lab., Univ. of Helsinki, Dept of Physiol., P. Rautatiekatu 13, HELSINKI, Finland
- The development of the visual cells. The development of the photo-mechanical movements. *Rana temporaria* L. and *Xenopus laevis* (*Anura*)

- b. The appearance of mitoses in the retina during the development (colchicin studies). *Rana temporaria* L. and *Xenopus laevis* (Anura)

SCHECHTMAN, A. M. F.I.I.E., A.B., Ph.D., Prof. — Dept of Zool., Univ. of Calif., LOS ANGELES 24, Cal., U.S.A.

- a. Surface active materials: quantitative changes during the course of development.
- b. Studies of the lipid in the serum of the developing embryo. *Gallus domesticus* (Aves) (in collaboration with E. WELLER)
- c. Biological characteristics of the developing blood of the embryo. *Gallus domesticus* (Aves) (in collaboration with Miss P. KNIGHT)
- d. Electrophoresis of serum of the developing embryo. *Gallus domesticus* (Aves) (in collaboration with W. G. HEIM)
- e. Stability of cellular particulates in developing tissues and in neoplasms. (Aves and Mammalia) (in collaboration with A. A. HIRATA)
- f. Induction of neural plate by dead and modified embryonic tissues. *Hyla regilla* (Anura) (in collaboration with A. S. SMITH)

SCHEIB—PFLEGER, Mrs D. Lic. ès Sci. — Lab. de Zool. de la Fac. des Sci. et Lab. d'Embryol. et Tératol. expér. du C.N.R.S., Inst. de Zool. et de Biol. gén., 12 Rue de l'Université, STRASBOURG, France

- a. Rôle des hormones dans la différenciation sexuelle. Etudes biochimiques sur la régression des canaux de Müller. *Gallus* (Aves)

SCHENK, R. Dr Med. — Anat. Inst. der Univ., Gloriastr. 19, ZÜRICH, Schweiz

- a. Untersuchungen über den Implantationsvorgang, unter besonderer Berücksichtigung des Verhaltens der Ribonukleinsäure. *Hemicricetus auratus* (Rodentia)
- b. Untersuchungen über die Wirkung von Nitrogen Mustard auf die embryonale Entwicklung. *Triton* (Urodela)

SCHJEIDE, A. E. A.B., M.S., Ph.D. — Dept of Zool., Univ. of Calif., LOS ANGELES 24, Cal., U.S.A.

- a. Inorganic ions of serum in the developing embryo. *Gallus domesticus* (Aves)

SCHNEIDER, R. Dr med. — Dr Senckenberg. Anat. Inst., Med. Fak. der Univ., Ludwig Rehnstr. 14, FRANKFURT/Main-Süd, Deutschland

- a. Development of the skull. *Bradypus tridactylus* (Edentata, Mammalia)

SCHNETTER, M. Dr phil. — Zool. Inst. der Univ., Katharinenstr. 20, FREIBURG i. Brsg., Deutschland

- a. Keimblätterbildung und Differenzierungsleistungen in isolierten Eiteilen. *Apis mellifica* (Hymenoptera) (gemeinsam mit Miss E. LOECHER)
- b. Entwicklung und Bedeutung der Vitellophagen. *Apis mellifica* (Hymenoptera) (gemeinsam mit Miss M. LEIBBRANDT)
- c. Eibildung bei Arbeiterinnen (Drohnenmütterchen). *Apis mellifica* (Hymenoptera) (gemeinsam mit Miss H. DREISCHER)

SCHOTTÉ, O. E. Dr, Prof. — Dept of Biol., Amherst Coll., AMHERST, Mass., U.S.A.

(no data received)

SCHREIBER, B. Dott.Sci.Nat., Prof. — Ist. di Zool. dell'Univ., PARMA, Italia

- a. Bone induction. (*Amphibia*)

- SCHWARTZ, V. — Max Planck-Inst. für Biol., Spemannstr. 34, TÜBINGEN, Deutschland
- Ontogenese des Flügelmusters. *Plodia* (*Lepidoptera*)
- SEDRÁ, S. N. B.Sc., M.Sc., Ph.D., F.Z.S. — Dept of Zool., Alexandria Univ., Moharram Bey, ALEXANDRIA, Egypt
- Stages in normal development. *Bufo regularis* (*Anura*)
 - The development of skull and visceral muscles during metamorphosis. *Xenopus laevis* (*Anura*) (Normal Table) (in collaboration with M. I. MICHAEL)
 - The segmentation of the urostyle. *Bufo regularis* (*Anura*)
- SEIDEL, F. Dr. Phil., Prof. — Max Planck-Inst. f. Tierzucht und Tierernährung, (20a) MARIENSEE Kreis NEUSTADT a. Rügenberge, Deutschland
- Morphologische und physiologische Untersuchungen an der embryonalen Entwicklung. *Oryctolagus cuniculus* (*Lagomorpha*)
 - Morphologische und physiologische Untersuchungen an der embryonalen Entwicklung. *Platycnemis* (*Diptera*), *Gryllus* (*Orthoptera*) und *Ascaris* (*Nematoda*)
- SELMAN, G. G. Ph. D. — Inst. of Animal Genet., Univ. Dept of Genet., King's Buildings, West Mains Rd, EDINBURGH 9, Scotland (U.K.)
- Study of the effects of destroying the primary organisation of mosaic and regulation eggs by ultrasonic treatment. (*Insecta*), (*Invertebrata*)
 - Some measurement of morphogenetic forces and the mechanical properties of the tissue concerned. (*Amphibia*)
 - Effect of ultrasonics on embryonic development. *Drosophila melanogaster* (*Diptera*) (in collaboration with Miss S. J. COUNCE)
 - Electron microscope study of cytoplasmic inclusions. (*Amphibia*) (in collaboration with Mrs R. M. CLAYTON—FREEDMAN)
- SEMBRAT, K. Ph.D., Prof. — Zakład Zool. Ogólnej, Inst. Zool. Uniw. we Wrocławiu, ul. Sienkiewicza 21, WROCŁAW, Polska (Poland)
(no data received over some years)
- SEMBRATOWA, Mrs Z. M.D., Prof. — Zakład Histol. i Embryol., Akad. Medycznej, ul. Chałubińskiego 6a, WROCŁAW, Polska (Poland)
(no data received over some years)
- SENGEL, Ph. J. Lic. ès Sci. — Lab. de Zool. de la Fac. des Sci. et Lab. d'Embryol. et Tératol. expér. du C.N.R.S., Inst. de Zool. et de Biol. gén., 12 Rue de l'Université, STRASBOURG, France
- Sur les conditions de la régénération normale du pharynx. *Dugesia* (= *Euplanaria*) *lugubris* O. Schm. (*Turbellaria*)
 - Développement du système nerveux et de la pigmentation de la peau de l'embryon en cultures *in vitro*. *Gallus* (*Aves*)
- SENSENIĆ, E. C. B.A., M.S., Ph.D., Prof. — Univ. of Alabama, Med. Center, BIRMINGHAM 5, Alabama, U.S.A.
- Development of the vertebral canal and its contents. *Homo sapiens* (*Primates*)
 - Developmental anomalies of the vertebrae, meninges and spinal cord. *Homo sapiens* (*Primates*)
 - The normal and abnormal development of the skull and its related structures. *Homo sapiens* (*Primates*)

- d. Failure of development of the optic nerves and its effect upon the structure of the cortical and subcortical visual centers. *Homo sapiens (Primates)*
- e. Causative factors underlying developmental anomalies.
- 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. Study of the development of truncus arteriosus persistens communis in abnormal hearts. *Sus scrofa (Artiodactyla)*
- SHANNON, J. E. — Dept of Zool., Univ. of Connecticut, STORRS, Conn., U.S.A.
- a. Factors affecting reaggregation and segregated cells in tissue culture. (in collaboration with H. CLARK)
- SHAPIRO, H. B.S., A.M., Ph.D., Prof. — Nat. Inst. of Health, BETHESDA, Md, U.S.A.
- (no data received over some years)
- SHAYER, J. R. A.B., Ph.D. — Dept of Zool., Univ. of Missouri, CO-LUMBIA, Missouri, U.S.A.
- a. Initial development (artificial parthenogenesis). *Rana pipiens (Anura)*
- b. Physiology of fertilization. *Rana pipiens (Anura)*
- c. Physiology of cleavage. *Rana pipiens (Anura)*
- d. Studies on effect of mitochondria on early morphogenesis. *Rana pipiens (Anura)*
- SHEN, S. C. Ph.D. — Osborn Zool. Lab., Yale Univ., NEW HAVEN 11, Conn., U.S.A.
- a. Development of the cholinergic system in brains. *Ambystoma, Triturus* and *Rana (Amphibia)*
- SHULOV, A. Dr — Dept of Zoology, Hebrew Univ., JERUSALEM, Israel
- a. Ecological conditions of development of the eggs. Artificially induced interruption of development (eggs) (The changes in yearly development cycles under influence of dryness or/and humidity). *Prionosthenus sp., Anacridium aegyptium, Pareuprepocnemis syriaca, Pezotettix judaica* and *Calliptamus sp. (Acrididae, Orthoptera)*, *Decticus albifrons (Tetti-goniidae, Orthoptera)*, *Latrodectus XIII guttatus Rossi (Theridiidae, Araneida)*
- SIGOT, A. — Inst. de Zool., Lab. de Biol. gén., Fac. des Sci. de Strasbourg, 12 Rue de l'Université, STRASBOURG, France
- a. Etude de la sensibilité héréditaire au gaz carbonique. *Drosophila melanogaster (Diptera)*
- SILÉN, L. K. P. Fil. Dr — Zootom. Inst., Univ. of Stockholm, 116 Drottningatan, STOCKHOLM, Sweden
- a. Development of free stages including settling and metamorphosis. *Phoronis hippocrepia, mülleri, pallida, ovalis (Phoronidea, Tentaculata)*

- SINCLAIR, J. G. B.S., M.S., Ph.D., Prof. — Dept of Anat., Med. Branch, Univ. of Texas, GALVESTON, Tex., U.S.A.
- Early embryos, structure, conditions of implantation. *Homo (Primates)*
 - Effects of urethane on reproduction and on the young across the placenta. *Mus musculus* (C57 and CBA strains) (*Rodentia*)
 - Anterior cerebral nerve plexus in adult and fetus. *Tursiops truncatus*, *Oryctolagus cuniculus*, *Mus musculus* and *Homo (Mammalia)*
 - Continued study of developmental anomalies. Brain. Heart. *Mus musculus* and *Homo (Mammalia)*
 - General review of urethan mechanism of action.
 - Continued study of transplacental effects of urethan. *Mus musculus (Rodentia)*
- SINGER, M. A.M., Ph.D., Prof. — Dept of Zool., Cornell Univ., ITHACA, N.Y., U.S.A.
(no data received on Nov. 1st, 1953)
- SINHA, T. P. B.S., M.S., M.B., Prof. — Dept of Anat., Prince of Wales Med. Coll., PATNA, Behar, India
(no data received over some years)
- SIPPEL, T. O. A.B., Ph.D. — Dept of Biol., The Johns Hopkins Univ., BALTIMORE 18, Md, U.S.A.
- Metabolic differentiation in relation to the sensitivity of gene action to X-irradiation. *Drosophila melanogaster (Diptera)*
- SKREB, N. M.D. — Inst. de Biol., Fac. de Méd., Salata, ZAGREB, Yougoslavie
- Cytologie et cytochimie des premiers stades du développement. *Rhinolophus*, *Miniopterus (Chiroptera)*
- SLIJPER, E. J. Dr, Prof. — Zool. Lab. der Univ., Plantage Doklaan 44, AMSTERDAM C, Holland
- The embryonic bloodcirculation (ductus Botalli, ductus Arantii etc.) (*Cetacea, Mammalia*)
- SŁOTWIŃSKI, J. Dr, Prof. — Inst. d'Histol. norm. et d'Embryol. de l'Univ. Poznań, ul. Swieczickiego 6, POZNAŃ, Pologne
- SMITH, A. S. A.B. — Dept of Zool., Univ. of Calif., LOS ANGELES 24, Cal., U.S.A.
- Induction of neural plate by dead and modified embryonic tissues. (*Amphibia*) (in collaboration with A. M. SCHECHTMAN)
- SMITH, Miss B. T. — Dept of Biol., Hamilton Coll., McMaster Univ., HAMILTON, Ontario, Canada
- Survey of the embryonic development. *Petromyzon marinus (Cyclostomata)*
- SMITH, S. M.A., Ph.D. — Dept of Zool., Univ. of Cambridge, Downing Street, CAMBRIDGE, England (U.K.)
- Weight of egg influencing time sequences of metabolism. *Salmo Irideus (Teleostei)*
 - Anterior-posterior reversal of archenteron roof at gastrula stage. *Triturus alpestris*, *Ambystoma mexicanum (Urodela)*
- SMITHBERG, M. A.B. (Biol.) — Dept of Biol., Coll. of Arts and Sci., Univ. of Rochester, ROCHESTER 3, N.Y., U.S.A.
(no data received on Nov. 1st, 1953)

- SMITHBERG, M. Ph.D. — Roscoe B. Jackson Mem. Lab., BAR HARBOR, Me, U.S.A.
- a. Maternal influences upon prenatal development. *Mus musculus* (*Rodentia*)
 - b. Factors influencing survivability of transplanted ova. *Mus musculus* (*Rodentia*)
- SMRECZYŃSKI, S. Ph.D. — Zool. Dept of the Jagellonian Univ., KRAKOW, St Anne 6, Poland
(no data received on Nov. 1st, 1953)
- SNELLEN, H. A. Med.Dr — Anat.-Embryol. Lab. of the Univ. of Leyden, Wassenaarseweg, Boerhaavekwartier, LEIDEN, Holland
- a. Heart and vessels in congenital malformations. *Homo* (*Primates*)
(in collaboration with J. DANKMEIJER)
- SNOOK, T. B.Sc., M.Sc., Ph.D. — Dept of Anat., School of Med., Univ. of North Dakota, GRAND FORKS, N. Dak., U.S.A.
- a. Studies on the development of the spleen. *Homo* (*Primates*)
 - b. The relation of reticulum to epidermis in the developing hoof. *Sus* (*Artiodactyla*)
- SNYDER, F. F. M.D., A.M., Prof. — Dept of Obstetrics and Anat., Harvard Med. School, 25 Shattuck St, BOSTON 15, Mass., U.S.A.
- a. Action of analgesic agents on fetal respiration — Meperidine and levo-isomethadone. *Lepus cuniculus* L. (*Lagomorpha*)
 - b. Antidotal action of N-allylnormorphine to depression of fetus by morphine, meperidine, levo-isomethadone. *Homo sapiens* (*Primates*)
- SOBELS, F. H. Ph.D. — Genet. Inst. der Rijks Univ., Stationsstraat 9, UTRECHT, Holland
- a. Genetics and developmental physiology of the mutant type "Asymmetric" with special reference to its abnormal abdomen character. *Drosophila melanogaster* Meigen (*Diptera*)
- SPIRITO, A. Dott., Prof. — Ist. di Biol. gen., Fac. di Med., S. Pietro, PERUGIA, Italia
- a. Origine e natura dei tumori. *Bufo* (*Anura*)
- SPOFFORD, W. R. Ph.D., Prof. — Dept of Anat., School of Med., State Univ. of New York, 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., 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 blastoderms). *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*) and *Tubularia* spec. (*Coelenterata*)
 - d. Cytological study of the developmental center (organizer). *Gallus* (*Aves*)

- SRIVASTAVA, M. D. L. D.Sc., F.N.A.Sc. — Zool. Dept, Allahabad Univ., ALLAHABAD, India
- Experiments on the Wolffian regeneration of the lens. *Rana tigrina*
 - Effects of thermal shock on the embryonic development. *Rana tigrina*
- STADHOUDERS, A. M. B.Sc. — Zool. Lab. der Rijks Univ., Janskerkhof 3, UTRECHT, Holland
- Influence of heat shock. *Limnaea stagnalis* (*Gastropoda*) (in collaboration with G. A. van ERKEL and A. C. de ROON)
- STARCK, D. F.I.I.E., Dr med., o. Prof. — Dr Senckenberg. Anat. Inst., Med. Fak. der Univ., Ludwig Rehnstr. 14, FRANKFURT/Main-Süd, Deutschland
- Chondrocranium and osteocranium. *Scotophilus temmincki* and *Myotis myotis* (*Microchiroptera*)
 - Chondrocranium and osteocranium, especially orbitotemporal region of skull. *Struthio*, *Sula*, *Diomedea* and *Spheniscus* (*Aves*)
- STÄRK, O. J. Dr rer. nat. — Zool. Inst. der Univ., Katharinenstr. 20, FREIBURG i. Brsg., Deutschland
- Entstehung und Determination der Geschlechtszellen und Gonaden. *Triton* (*Urodela*) (gemeinsam mit O. MANGOLD)
- STEFANELLI, A. F.I.I.E., Dr, Prof.ord. — Lab. di Istol. ed Embriol. della Fac. di Sci., Univ. di Roma, Via A. Borelli 50, ROMA, Italia
- Histogenetic determination and differentiation of nervous cells. (*Teleostei*, *Amphibia* and *Aves*)
 - Degeneration and regeneration of nervous cells. (*Teleostei*, *Amphibia* and *Aves*)
- STEINER, H. Ph.D., Prof. — Zool.-vergl. Anat. Inst., Naturwiss. Fak., Univ. Zürich. Künstlergasse 16, ZÜRICH 6, Schweiz
(no data received over some years)
- STEINERT, M. Lic. Sci. Zool. — Lab. de Morphol. anim., Fac. des Sci., Univ. libre de Bruxelles, 1850 Chaussée de Wavre, BRUXELLES-Auderghem, Belgique
- Studies on nucleic acid synthesis during morphogenesis. (*Amphibia*)
 - Etude des purines libres dans l'embryon. *Rana*, *Pleurodeles*, *Ambystoma*
- STEINITZ, H. Ph.D. — Dept of Zoology, Hebrew Univ., JERUSALEM, Israel
- Regeneration of retina from transplanted retinal pigment epithelium. *Triturus v. viridescens* (*Urodela*) (in collaboration with L. S. STONE, New Haven)
 - The role of retinal pigment cells in various types of retinal injuries. *Triturus v. viridescens* (*Urodela*) (in collaboration with L.S. STONE)
 - Role of endocrines in regeneration of the retina and lens. *Triturus v. viridescens* (*Urodela*) (in collaboration with L. S. STONE)
 - Postembryonal development of the eye. *Pelobates syriacus* (*Anura*)
- STEPHAN, Fr. Dr ès Sci. — Lab. de Zool. de la Fac. des Sci. et Lab. d'Embryol. et Tératol. expér. du C.N.R.S., Inst. de Zool. et de Biol. gén., 12 Rue de l'Université, STRASBOURG, France
- Formation du système vasculaire extraembryonnaire et son extension. Développement du coeur 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)*
- STEPHAN—DUBOIS, Mrs Fr. Dr ès Sci. — Lab. de Zool. de la Fac. des Sci. et Lab. d'Embryol. et Tératol. expér. du C.N.R.S., Inst. de Zool. et de Biol. gén., 12 Rue de l'Université, STRASBOURG, France
- a. Migration des néoblastes dans la régénération. Facteurs qui déclenchent cette migration. Etude de l'arrêt de la migration. *Euplanaria lugubris (Turbellaria)*
- b. Migration des néoblastes dans la régénération. *Tubifex tubifex* et *Lumbriculus variegatus (Oligochaeta)*
- STEPHENSON, N. G. M.Sc. — AUCKLAND Univ. Coll., New Zealand
(no data received over some years)
- STICH, H. Dr rer.nat. — Max Planck-Inst., WILHELMSHAVEN, Deutschland
(no data received on Nov. 1st, 1953)
- STOCKARD, A. H. Ph.D. — Dept of Zool., Univ. of Michigan, ANN ARBOR, Mich., U.S.A.
- a. Early development. *Osmerus mordax (Malacopterygii, Teleostei)*
- STONE, L. S. F.I.I.E., Ph.D., Prof. — Anat. Dept, School of Med., Yale Univ.
— Osborn Zool. Lab., Yale Univ., NEW HAVEN 11, Conn., U.S.A.
- a. Regeneration of retina from pigment cells. (*Amphibia*)
- b. Development of vision in transplanted eyes. *Ambystoma punctatum* and *Triturus v. viridescens (Urodela)*
- c. Factors controlling the inhibition and release of lens regeneration. (*Urodela*)
- d. 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, Salamandra salamandra, Ambystoma punctatum (Urodela)* (in collaboration with R. W. REYER, Pittsburgh)
- e. Regeneration of retina from transplanted retinal pigment epithelium. *Triturus v. viridescens (Urodela)* (in collaboration with H. STEINITZ)
- f. The role of retinal pigment cells in various types of retinal injuries. *Triturus v. viridescens (Urodela)* (in collaboration with H. STEINITZ)
- g. Role of endocrines in regeneration of the retina and lens. *Triturus v. viridescens (Urodela)* (in collaboration with H. STEINITZ)
- h. Physiological projection of the retinal quadrants on the optic tectum. *Triturus v. viridescens (Urodela)* (in collaboration with E. S. CRELIN)
- j. Excision and rotation of the developing optic tectum and subsequent visual behavior. *Ambystoma punctatum (Urodela)* (in collaboration with E. S. CRELIN)
- STRAUSS, F. M.D. — Anat. Inst., Bühlstr. 26, BERN, Schweiz
- a. The oviduct during the passage of the egg. (*Mammalia*)
- b. Comparative implantation. (*Mammalia*)
- c. Comparative development of the brain. *Cricetus auratus (Rodentia)* (in collaboration with K. FEREMUTSCH, Waldau-Bern)
- STRUCHLY, Z. Dr — Zakład Zool. Ułgólnej, Inst. Zool., Uniw. we Wrocławiu, ul. Sienkiewicza 21, WROCLAW, Polska (Poland)
(no data received over some years)

- STRUDEL, G. Dr ès Sci. — Lab. de Zool. de la Fac. des Sci. et Lab. d'Embryol. et Tératol. expér. du C.N.R.S., Inst. de Zool. et de Biol. gén., 12 Rue de l'Université, STRASBOURG, France
- Les corrélations nerveuses chez l'embryon, étudiées par les méthodes d'excision chirurgicale. Origine des ganglions rachidiens et du système sympathique. *Gallus gallus* (*Aves*)
 - Le rôle du système nerveux et de la corde dorsale dans la différenciation des Vertébrés. *Gallus gallus* (*Aves*)
- STUART, E. G. Dr — Dept of Anat., School of Med., Univ. of Pennsylvania, PHILADELPHIA 4, Pa, U.S.A.
- Factors influencing regeneration of nerve fibers in the central nervous system of adult animals. *Felis domestica* (*Carnivora*), (*Anthropoidea*) (in collaboration with W. F. WINDLE and J. L. LITTRELL)
 - Growth and regeneration of the severed spinal cord in embryos. *Gallus domesticus* (*Aves*) (in collaboration with W. F. WINDLE and J. L. LITTRELL)
- SU, Tchou Dr ès Sc. — Lab. of Developm. Physiol., Inst. of Exper. Biol., Acad. Sinica, 865 Chang Ning Rd, SHANGHAI, China
(no data received over some years)
- SUGIYAMA, M. Dr Sc. — The Sugashima Marine Biol. Stat., Nagoya Univ., SUGASHIMA-MURA, Shima-gun, Mie-ken, Japan
- Physiological studies on fertilization and artificial parthenogenesis. *Hemicentrotus pulcherrimus*, *Pseudocentrotus depressus* (*Echinoidea*) (in collaboration with M. ICHIKAWA)
- SULLIVAN, G. E. M.Sc. — Dept of Zool., Univ. of Sydney, SYDNEY, N.S.W., Australia
- Development of musculature in the wing. *Gallus domesticus* (*Aves*)
- SUNDELL, Mrs G. Fil.Kand. — Inst. for Zoophysiol., Uppsala Univ., UPPSALA, Sweden
- The primary sex rate. (*Mammalia*)
- SUNDELL, L. E. Fil.Mag. — Inst. for Zoophysiol., Uppsala Univ., UPPSALA, Sweden.
- Physiological and chemical studies in yolk. (*Amphibia*, *Pisces* and *Mammalia*)
- SWEDMARK, G. G. Fil.lic. — Inst. for Zoophysiol., Uppsala Univ., UPPSALA, Sweden
- Sulphate metabolism in development. (*Echinoidea*)
- SZARSKI, K. W. Ph.D. — Zakład Anat. Porównawczej, Inst. Zool. Uniw., ul. Sienkiewicza 21, WROCŁAW, Poland
- Development of the kidneys. (*Teleostei* and *Anura*)
 - Development of genital tracts and accessory glands. (*Chiroptera*)
- TAHARA, Y. — Lab. of Morphol., Osaka Liberal Arts Univ., IKEDA, Osaka Pref., Japan
- Study of development. *Cipago paludina japonica* (*Gastropoda*)
 - Tail formation. *Rana nigromaculata* and *Rana japonica* (*Anura*)
 - Formation of digestive tract. *Rana*, *Triturus*, *Hynobius* (*Amphibia*)
- TAKAMOTO, K. M.Sc. — Lab. Exper. Embryol., Inst. of Polytechn., Osaka City Univ., Minami-Ogimati, Kita-ku, OSAKA, Japan
- Histochemical study of gonadogenesis. *Triturus pyrrhogaster* (Boie) and *Hynobius nebulosus* (Schlegel) (*Urodela*)

- b. The role of the entoderm in the development of mesodermal organs. *Triturus pyrrhogaster* and *Hynobius nebulosus* (*Urodela*)
- TAKATA, K. M.A. (Rigakushi) — Biol. Inst., Fac. of Sci., Nagoya Univ., Chigusa-Ku, NAGOYA, Japan
- a. Ribonuclease activity in different presumptive regions of developing embryos. *Triturus pyrrhogaster* (*Urodela*)
- b. Physico-chemical state of ribonucleic acid in neural induction. *Triturus pyrrhogaster* (*Urodela*)
- TAKAYA, H. Ph.D., Prof. — Biol. Lab., Dept of Lit. and Sci., Kōnan Univ., KOBE, Japan
- a. Production of situs inversus viscerum. *Triturus*, *Hynobius*, *Rana*, *Bufo* (*Amphibia*)
- b. Sex-reversal. *Triturus*, *Rana* (*Amphibia*)
- c. Regional specificity of the inductive faculty of organizer. *Triturus Hynobius* (*Urodela*)
- TALEPOROS, P. D. B.S., M.A. — Dept of Zool., Fac. of pure Sci., Columbia Univ., Broadway and 116th St, NEW YORK 27, N.Y., U.S.A.
- a. Apyrase activity during regeneration. *Tubularia* (*Coelenterata*)
- b. RNA inhibition of phosphatases. *Rana pipiens* (*Anura*)
- TARDENT, P. — Abt. für Zoophysiol., Zool. Inst. der Univ., Sahlistr. 8, BERN, Schweiz
- a. Regeneration (Bedeutung der I-Zellen). (*Hydrozoa*) (in Zusammenarbeit mit F. E. LEHMANN)
- TEMPELTON, M. A.B. — Dept of Anat., Med. School, Univ. of Kansas, LAWRENCE, Kansas, U.S.A.
- a. Histochemical study of the influence of nerves upon the developing limb. *Gallus domesticus* (*Aves*)
- TENG KHOEN HING, J. T. — 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*) (in collaboration with H. A. L. TRAMPUSCH)
- TESTA, I. Dr — Heiligenberg-Inst., (17b) HEILIGENBERG, Kreis Ueberlingen/Bodensee, Deutschland
(no data received on Nov. 1st, 1953)
- TEYSSEYRE, Miss J. Dr en Méd. — Lab. d'Embryol., Fac. de Méd., 15 Rue de l'Ecole de Méd., PARIS VIe, France
- a. Repercussions du fonctionnement thyroïdien maternel sur le développement du système nerveux de l'embryon.
- THEILER, K. Dr Med. — Anat. Inst. der Univ., Gloriastr. 19, ZÜRICH, Schweiz
- a. Untersuchungen über die Auswirkung verschiedener Letalfaktoren auf die Entwicklung der Wirbelsäule.
- THOMAS, R. Lic.Sci.Chim. — Lab. de Morphol. anim., Fac. des Sci., Univ. libre de Bruxelles, 1850 Chaussée de Wavre, BRUXELLES-Auderghem, Belgique
(no data received over some years)
- THOMASON, Miss D. B.A. (Hons.) — The Royal Free Hospital School of Med., 8 Hunter St, LONDON W.C.1, England (U.K.)
- a. Absorption and localisation of phosphate in embryos during development, using P 32. (*Amphibia*)

- THOMSON FLYNN, T. F.I.I.E., Dr, Prof. — Fac. of Sci., Queens Univ., BELFAST, Ulster, Eire (U.K.)
(no data received)
- THURMOND, W. A.B., M.A. — Dept of Zool., Univ. of California, BERKELEY 4, Cal., U.S.A.
(no data received over some years)
- TOIVONEN, S. I. F.I.I.E., Ph.D., Prof. — Zool. Lab., Univ. of Helsinki, Dept of Physiol., P. Rautatiekatu 13, HELSINKI, Finland
- a. The specific action of heterogenous inductors. *Triton (Urodela)*
 - b. Analysis of the regulative potencies of the invaginating archenteron roof and of the induced neural plate along the dorsoventral and cranio-caudal axes by heteroplastic transplantation of parts of the dorsal blastoporal lip. *Triturus alpestris*, *taeniatus* and *cristatus (Urodela)* (in collaboration with P. D. NIEUWKOOP, Utrecht)
 - c. Thyroid gland and adenohipophysis in delayed metamorphosis. *Xenopus laevis (Anura)*
 - d. The development of mouth- and pharyngeal cavity. *Xenopus laevis (Anura)* (Normal Table)
 - e. Induction of bone cells by chemical agents in the adult animal. *Lepus cuniculus (Lagomorpha)*
 - f. Induction of mesoderm by killed inductors. *Triturus (Urodela)*
- TOLMAN, R. — Dept of Zool., Indiana Univ., BLOOMINGTON, Ind., U.S.A.
- a. Biochemical and immunochemical analysis of the synthesis and distribution of the contractile proteins, actin and myosin, in the development of the heart in the early embryo. *Gallus gallus (Aves)* (in collaboration with J. D. EBERT)
- TÖNDURY, G. F.I.I.E., Prof. — Anat. Inst. der Univ., Gloristr. 19, ZÜRICH, Schweiz
- a. Ueber Viruswirkung auf die Embryonalentwicklung.
 - b. Untersuchungen über Wachstum und Differenzierung fetaler Organe.
 - c. Wachstum und Differenzierung embryonaler Organe *in vitro* unter verschiedenen experimentellen Bedingungen.
 - d. Weitere Untersuchungen über die Wirkung weiblicher Sexualhormone auf spätere Entwicklungsstadien. *Triton (Urodela)*
- TORREY, T. W. Prof. — Dept of Zool., Indiana Univ., BLOOMINGTON, Ind., U.S.A.
- a. Histochemical and experimental analysis of the development of the urogenital system. *Mus rattus (Rodentia)*
 - b. Descriptive study of the early development of the nephros. *Homo (Primates)*
- TOSI, Miss L. Dott. Sci. Biol. — Zool. Station, NAPLES, Italy
(no data received on Nov. 1st, 1953)
- TRACY, H. C. Ph.D., Prof. (Emer.) — Dept of Anat., Med. School, Univ. of Kansas, LAWRENCE, Kansas, U.S.A.
- a. The development of all systems in relationship to behaviour. *Opsanus tau (Pisces)* (in collaboration with J. WINBLAD and Th. BATTY)
 - b. Development of the nervous system in relation to behaviour. *Opsanus tau (Pisces)*
 - c. Physiological stages in development. *Opsanus tau (Pisces)*

- TRAMPUSCH, H. A. L. Dr Phil. — Anat.-Embryol. Inst., Municipal Univ. of Amsterdam, Mauritskade 61, AMSTERDAM O, Holland
- Studies concerning the effect of X-rays on embryonic development. Continuation of earlier experiments. (*Urodela*) (in collaboration with J. T. TENG KHOEN HING)
 - Experiments aimed to clarify the way in which determination of blastema takes place during regeneration. (*Urodela*)
 - Experiments testing the role which different tissues play in accumulation of a regeneration-blastema. (*Urodela*) (in collaboration with A. J. VERGROESEN)
 - Experiments directed to circumstances under which regeneration will be stimulated or inhibited. (*Urodela*)
 - Histochemical analysis of regenerating limbs and tails. (*Urodela*) (in collaboration with P. COHEN)
 - Cytological analysis of regenerating limbs with particular regard to pathological aspects of cell structures. (*Urodela*) (in collaboration with Miss P. J. VISSER)
 - Influence of metamorphosis on the different stages of regeneration. (*Urodela*) (in collaboration with Miss E. A. KUIPER)
- TRIBE, Miss M. D.Sc. — King's Coll., Strand, LONDON W.C.2, England (U.K.)
- Fate of the dermatome. *Gallus domesticus* (*Aves*)
 - Early development of the gill pouches. *Rana temporaria* (*Anura*)
- TRINKAUS, J. P. M.A., Ph.D. — Osborn Zool. Lab., Yale Univ., NEW HAVEN 11, Conn., U.S.A.
- Mechanism of gastrulation, with particular attention to role of periblast. *Fundulus heteroclitus* (*Teleostei*)
 - Experimental studies on histogenesis. *Gallus domesticus* (*Aves*)
- TROLLOPE, Miss E. M. B.Sc. Hons. (Rand.) — Dept of Zool., Univ. of the Witwatersrand, Milner Park, JOHANNESBURG, South Africa
- The effects of anti-organ sera on developing embryos. *Gallus domesticus* (*Aves*)
- TRUSLOVE, Miss G. M. B.Sc., Ph.D. — Dept of Genetics, Univ. Coll. London, Gower St, LONDON W.C.1, England (U.K.)
- Developmental genetics of skeletal mutants. *Mus musculus* (*Rodentia*)
- TSCHUMI, P. A. — Abt. für Zoophysiol., Zool. Inst. der Univ., Sahlstr. 8, BERN, Schweiz
- Die Bedeutung der physiologischen Konkurrenz und weiterer intrablastematischer Korrelationen bei der Entwicklung chemisch behandelter Extremitäten. *Xenopus* (*Anura*)
 - Modellversuche zur Genese von Extremitätenmissbildungen. *Xenopus* (*Anura*)
 - Interpretation phylogenetischer Strahlenreduktionen. *Xenopus* (*Anura*)
- TUFT, P. H. M.A., Ph.D. (Cantab.) — Dept of Zool., Univ. of Edinburgh, West Mains Rd, EDINBURGH 9, Scotland (U.K.)
(no data received on Nov. 1st, 1953)
- TUNG, T. C. F.I.I.E., Dr, Prof. — Dept of Zool., Univ. of Shantung, TSINGTAO, China
(no data received)
- TWITTY, V. C. F.I.I.E., Dr, Prof. — Dept of Biol. Sci., Stanford Univ., STANFORD, Cal., U.S.A.

- a. The differentiation of macrophages into melanophores following their ingestion of pigmentary debris released by degeneration of preexisting melanophores. (*Amphibia*) (in collaboration with M. C. NIU)
 - b. The migratory behaviour of single neural crest melanoblasts isolated in capillary tubes of extremely small bore. (*Amphibia*) (in collaboration with M. C. NIU)
 - c. The differentiation of gastrula-ectoderm in medium conditioned by axial mesoderm. (*Amphibia*)
- TYLER, A. F.I.I.E., Ph. D., Prof. — Dept of Embryol., Div. of Biol., Calif. Inst. of Technol., PASADENA 4, Cal., U.S.A.
- a. Physiology of fertilization. (*Echinoidea*)
 - b. Physiology of early development. (*Echinoidea* and *Polychaeta*)
 - c. Life-span, motility and metabolism of spermatozoa. (*Echinodermata, Annelida, Mollusca, Aves* and *Mammalia*)
- UBISCH, L. v. F.I.I.E., Dr jur. et phil., Prof. (Emer.) — PARADIS, Norge.
- a. Untersuchungen über Pleuronectiden. III. (*Pleuronectidae, Teleostei*)
 - b. Die Bedeutung von Metamorphose, Generationswechsel und Polymorphismus für die Abstammungslehre.
- UCHIDA, T. Rigakushi (M.S.), Rigakuhakushi (Dr), Prof. — Zool. Inst., Fac. of Sci., Hokkaido Univ., North 8, West 5, SAPPORO, Japan
(no data received on Nov. 1st, 1953)
- ULRICH, H. Dr Phil. — Zool. Inst. der Univ. Göttingen, Mathem.-Naturw. Fak., Bahnhofstr. 8, GÖTTINGEN, Deutschland
- a. Strahlenwirkung in der Embryologie. *Drosophila melanogaster* (*Diptera*)
- URBANI, E. Lib. Doc. Anat. Comp., Biol. e Genet. — Ist. di Anat. Comp. dell'Univ., Fac. di Sci., Via Borelli 50, ROMA, Italia
- a. Azione degli antimitotici sul metabolismo respiratorio. (*Amphibia*)
 - b. Ricerche sui determinanti germinali. (*Insecta*)
 - c. Ricerche sull'acido ribonucleico delle fasce vitellogene e dei nuclei vitellini. (*Echinodermata, Arachnoidea, Myriopoda* e *Mammalia*)
 - d. Ricerche sugli enzimi nella vita latente. (*Phyllopora, Crustacea*)
 - e. Ricerche sugli enzimi negli eritrociti. (*Vertebrata*)
- URBANI—MISTRUZZI, Mrs L. Dott. — Ist. di Anat. Comp. dell'Univ., Fac. di Sci., Via Borelli 50, ROMA, Italia
- a. Ricerche sulle parabiosi. (*Anura* and *Urodela*)
 - b. Ricerche sulle formazioni ergastoplasmatiche e sul ciclo secretorio. (*Pulmonata, Gastropoda*)
- VAHS, W. Dr — Zool. Inst. der Univ. Köln, Kerpenerstr. 13, KÖLN-LINDENTHAL, Deutschland
- a. Die Beeinflussbarkeit der Leistungsspezifität abnormer Induktoren in der Entwicklung. (*Amphibia*)
 - b. Quantitative Nucleinsäureanalysen vom Gewebe abnormer Induktoren. *Triturus* (*Urodela*). *Mus musculus* (*Rodentia*)
- VAKAET, L. C. M.D. — Lab. of Anat., Fac. of Med., Univ. of Gent, Bylokekaai 1, GENT, Belgium
- a. Cytochemistry of oocytes. *Lebistes reticulatus* (*Teleostei*)
- VANDEBROEK, G. Dr Sc., Prof. — Lab. d'Embryol., Inst. de Zool., Univ. de Louvain, 71 Rue de Namur, LOUVAIN, Belgique
(no data received over some years)

- VANNINI, E. Dr, Prof. — Ist. di Zool. e Anat. comp., Via Università 4, MODENA, Italia
- Cycle of the nucleic acids and nucleolar changes during oogenesis. (*Echinodermata, Pisces* and *Amphibia*)
 - Development of the gonads and their embryological relations with the cortico-adrenal blastema. (*Amphibia, Aves* and *Mammalia*)
 - Experimental analysis of the causal development of the gonads. (*Amphibia*)
 - Experimental regeneration and genesis of the germ-cells. (*Polychaeta*)
 - Development of the gonads. *Xenopus laevis* (*Anura*) (Normal Table)
- VASSEUR, E. J. E. Ph.D. — Wenner-Grens Inst. for experimental Biology, Norrtullsgatan 16, STOCKHOLM Va., Sweden
(no data received on Nov. 1st, 1953)
- VERGROESEN, A. J. — Anat.-Embryol. Inst., Municipal Univ. of Amsterdam, Mauritskade 61, AMSTERDAM O, Holland
- Experiments testing the role which different tissues play in accumulation of a regeneration-blastema. (*Urodela*) (in collaboration with H. A. L. TRAMPUSCH)
- VIGLIANI, F. Dr — Inst. of human Anat., Corso Massimo d'Azeglio 52, TORINO, Italy
- Late development and growth of bones, joints and muscles in mechanically inert and denervated limbs. *Canis familiaris* (*Carnivora*)
- VILLAFRANCA, G. W. de Ph.D. — Dept of Zool., Smith College, NORTHAMPTON, Mass., U.S.A.
- Studies of various enzyme fractions in developing muscle in relation to the development of contractibility. *Mus norvegicus albinus* (*Rodentia*)
 - Studies on the myosin proteins in the differentiation of muscle. *Mus norvegicus albinus* (*Rodentia*)
- VINTEMBERGER, P. Dr Méd., Prof. — Inst. d'Embryol., Fac. de Méd., 7 Place de l'Hôpital, STRASBOURG, France
- Recherches sur le déterminisme de la symétrie bilatérale chez les Vertébrés. (*Amphibia*)
- VISSER, Miss P. J. — Anat.-Embryol. Inst., Municipal Univ. of Amsterdam, Mauritskade 61, AMSTERDAM O, Holland
- Cytological analysis of regenerating limbs with particular regard to pathological aspects of cell structures. (*Urodela*) (in collaboration with H. A. L. TRAMPUSCH)
- VIVIER, Miss F. — Lab. d'Histol., Dép. d'Embryol., Fac. de Méd., 31 Rue Lionnois, NANCY (Meurthe & Moselle), France
- Propriétés mécaniques du cortex de l'oeuf. (*Amphibia*) (en collaboration avec A. DOLLANDER)
- VOGEL, N. W. — Dept of Zool., Indiana Univ., BLOOMINGTON, Ind., U.S.A.
- The development of pituitary-gonad interactions. *Gallus gallus* (*Aves*)
- VOGT, Miss M. M.D. — Hirnforschungs-Institut, NEUSTADT, Schwarzwald, Germany (present address: Dept of Biol., Calif. Inst. of Technol., PASADENA 4, Cal., U.S.A.)
(no embryological work planned for 1953)
- VOY, A. Dr ès Sci. — Lab. de Zool., Fac. des Sci., POITIERS, Vienne, France
- Croissance, régénération. (*Orthoptera*)

- WADDINGTON, C. H. F.I.I.E., F.R.S., M.A., Sc.D., Prof. — Inst. of Animal Genet., Univ. Dept of Genet., King's Buildings, West Mains Rd, EDINBURGH 9, Scotland (U.K.)
- Cinematographic study of morphogenetic movements. (*Amphibia* and *Aves*)
 - Transplantation of cell constituents. *Triton alpestris* (*Urodela*) (in collaboration with E. M. PANTELOURIS)
 - Mechanism of cleavage divisions, and micro-structure of coat and vitelline membrane. Various species (*Amphibia*) (in collaboration with G. G. SELMAN and H. YATES)
 - Metabolism of radio-isotopes. *Triton* (*Urodela*) (in collaboration with H. YATES)
 - Phenocopies. *Drosophila* (*Diptera*)
- WAECHTER, Miss H. Dr rer.nat. — Heiligenberg-Inst., (17b) HEILIGENBERG, Kreis Ueberlingen/Bodensee, Deutschland
(no data received on Nov. 1st, 1953)
- WAELSCH, Mrs S. GLUECKSOHN Ph.D. — Dept of Zool., Fac. of pure Sci., Columbia Univ., Broadway and 116th St, NEW YORK 27, N.Y., U.S.A.
- Developmental genetics. *Mus musculus* L. (*Rodentia*)
 - Developmental physiology. *Mus musculus* L. (*Rodentia*)
- WALLACE, D. R. J. B.Sc., Ph.D. — Dept of Zool., Univ. of Edinburgh, West Mains Rd, EDINBURGH 9, Scotland (U.K.)
- Growth and differentiation of hypopi. (*Acarina*, *Arachnoidea*)
- WATTERSON, R. L. Ph.D. — Cresap Biol. Lab., Northwestern Univ., EVANSTON, Ill., U.S.A.
- Regulative development in lateral halves of neural tubes. *Gallus domesticus* (*Aves*)
 - The role of the spinal cord in development of the axial skeleton. *Gallus domesticus* (*Aves*)
 - The effects of colchicine upon development of the neural tube. *Gallus domesticus* (*Aves*)
 - The effects of nitrogen mustard upon development of the neural tube and its intraneural vascular pattern. *Gallus domesticus* (*Aves*)
- WEBER, A. F.I.I.E., Prof. (Emer.) — Lab. de Neurohistol., Inst. d'Anat., Ecole de Méd., 20 Rue Ecole de Médecine, GENÈVE, Suisse
(no data received over some years)
- WEBER, R. Dr Phil.nat. — Abt. für Zoophysiol., Zool. Inst. der Univ., Sahlistr. 8, BERN, Schweiz
- Regeneration. *Xenopus laevis* (*Anura*)
 - Teratome. *Xenopus laevis* (*Anura*)
 - Submikroskopische Struktur von Regenerationsgewebe. *Xenopus* (*Anura*) (Larven)
- WEDIN, B. Dr — Embryol. Dept, Zool. Inst. of the Univ. of Lund, LUND, Sweden
- Embryology of the coeloms of the head. (*Vertebrata*)
- WEGLARSKA, Miss B. B.Sc. — Zool. Dept of the Jagellonian Univ., St Anne 6, KRAKOW, Poland
(no data received on Nov. 1st, 1953)

- WEISS, P. A. F.I.I.E., Ph.D., M.D.(hon.c.), Prof. — Dept of Zool., Univ. of Chicago, CHICAGO 37, Ill., U.S.A.
- Growth and differentiation of dispersed and reaggregated cells.
 - Electronmicroscopy of tissues in growth, regeneration and induction.
 - Relation of mitogenesis to morphogenesis.
 - Organspecific growth control.
- WEISZ, P. B. B.S., Ph.D. — Arnold Biol. Lab., Brown Univ., PROVIDENCE 12, R.I., U.S.A.
- Study of morphogenesis. *Stentor* and *Blepharisma (Ciliata)*
 - Study of self-reproducing organelles. (*Ciliata*)
 - Regeneration. *Rana pipiens (Anura)* and *Mus norvegicus albinus (Rodentia)*
- WEL, W. H. v.d. Med.Drs — Anat.-Embryol. Lab. of the Univ. of Leyden, Fac. of Med., Wassenaarseweg, Boerhaavekwartier, LEIDEN, Holland
- Development of vessel-system of the liver. *Homo (Primates)*, *Bos taurus*, *Ovis aries (Artiodactyla)*
- WELLER, E. A.B., M.S. — Dept of Zool., Univ. of Calif., LOS ANGELES 24, Cal., U.S.A.
- Studies of the lipid in the serum of the developing embryo. *Gallus domesticus (Aves)* (in collaboration with A. M. SCHECHTMAN)
- WELLS, L. J. Ph.D., Prof. — Dept of Anat., School of Med., Univ. of Minnesota, MINNEAPOLIS 14, Minn., U.S.A.
(no data received over some years)
- WENDT, G. G. Dr Med. — Anat. Inst. der Univ., Robert Kochstr. 6, MARBURG/Lahn, Deutschland
- Embryonalentwicklung der Hautleisten und Tastballen. Beziehung zur Entwicklung der Blutgefäße und zu intrauterinen Druckschwankungen (*Rodentia*). (*Mammalia*), *Homo sapiens (Primates)*
- WENGER, B. S. B.S., M.S., Ph.D. — Dept of Anat., Univ. of Kansas, Med. School, LAWRENCE, Kansas, U.S.A.
- Experimental and microchemical analysis of the developing nervous system and its relationship to peripheral structures. *Gallus domesticus (Aves)*
- WENGER, Mrs E. L. B.A., M.A., Ph.D. — Dept of Anat., Univ. of Kansas, Med. School, LAWRENCE, Kansas, U.S.A.
- Cytochemical and microchemical study of the developing nervous system and its relationship to developing behaviour patterns. *Ambystoma maculatum (Urodela)* (in collaboration with P. G. ROOFE)
- WESTHUIZEN, C. M. v. d. M.Sc. — Zool. Inst., Univ. of Stellenbosch, STELLENBOSCH, South Africa.
- Ontogenesis of the skull. *Heleophryne purcelli (Anura)*
- WEY—SCHUÉ, Mrs M. Lic. ès Sci. — Lab. de Zool. de la Fac. des Sci. et Lab. d'Embryol. et Tératol. expér. du C.N.R.S., Inst. de Zool. et de Biol. gén., 12 Rue de l'Université, STRASBOURG, France
- Problèmes relatifs à l'origine des cellules de régénération. *Triturus (Urodela)*
 - Problème de la réduction de la taille et du nombre de doigts du membre postérieur de l'embryon, sous l'influence des rayons X. *Gallus domesticus (Aves)*

- WHEELER, A. J. Ph.D. — Physiol. Lab., Coll. of Sci., Univ. of Portland, PORTLAND 3, Ore., U.S.A.
- Development and metamorphosis. *Dendraster excentricus* (*Clypeastroidea*, *Echinoidea*)
- WHITELEY, A. H. Ph.D., Prof. — Friday Harbor Labs, FRIDAY HARBOR, Wash., U.S.A. (no data received over some years)
- WHITING, H. P. M.A., Ph.D. — Dept of Zool., The University, BRISTOL 8, England (U.K.)
- Development of the nervous system and behaviour pattern. *Scylliorhinus canicula*, *Petromyzon fluviatilis*, *Salmo* spp. (*Pisces*) (in collaboration with J. E. HARRIS)
- WICKLUND, Miss E. W. Ph.lic. — Wenner-Grens Inst. for experimental Biology, Norrtullsgatan 16, STOCKHOLM Va., Sweden (no data received on Nov. 1st, 1953)
- WILENS, Miss S. A.B. — Osborn Zool. Lab., Yale Univ., NEW HAVEN 11, Conn., U.S.A.
- The formation of the heart studied with the use of vital dyes. *Ambystoma punctatum* (*Urodela*)
 - The movements of the ectoderm and endoderm in contact with the heart mesoderm studied in early stages. *Ambystoma punctatum* (*Urodela*)
- WILLIAMS, R. G. A.B., M.A., M.D., Prof. — Dept of Anat., School of Med., Univ. of Pennsylvania, PHILADELPHIA 4, Pa, U.S.A.
- Studies on growth of various implanted tissues with the rabbit's ear chamber technique. (*Mammalia*)
 - Development of bone marrow in rabbit's ear tissue chambers. (*Mammalia*)
 - Studies on the effect of feeding and topical application of carcinogen on cells implanted in transparent chambers in rabbit's ears. (*Mammalia*)
- WILLIAMS, S. C. B.S., Ph.D., Assoc. Prof. — Dept of Anat., School of Med., Univ. of Pennsylvania, PHILADELPHIA 4, Pa, U.S.A.
- Tissue culture of young isolated neuroblasts from special areas of brain, esp. cerebellum, medulla. *Gallus domesticus* (*Aves*)
 - Early development of teeth. *Homo* (*Primates*)
- WILLIAUME, R. — Lab. de Biol. Gén., Fac. des Sci. de Bordeaux, 40 Rue Lamartine, TALENCE (Gironde), France
- Développement du système rénal. *Xenopus laevis* (*Anura*) (Normal Table) (en collaboration avec R. CAMBAR)
- WILLIER, B. H. F.I.I.E., B.S., Ph.D., Sc.D., Prof. — Dept of Biol., The Johns Hopkins Univ., Charles and 34th Sts, BALTIMORE 18, Md, U.S.A.
- The mechanism of interaction of melanoblasts of know genotype with feather papilla in the production of feather pigmentation pattern. *Gallus domesticus* (various varieties) (*Aves*)
 - Factors regulating migration of melanoblasts and their growth (multiplication) and differentiation (synthesis of specific melanin granules). *Gallus domesticus* (various varieties) (*Aves*)
 - The role that sex and other hormones play in modifying the phenotypic expression of melanoblasts in color pattern formation. *Gallus domesticus* (various varieties) (*Aves*)

- d. Ontogeny of endocrine correlation (a synthetic review). (*Vertebrata*)
- 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*)
- WINBLAD, J. A.B. — Dept of Anat., Univ. of Kansas, Med. School, LAWRENCE, Kansas, U.S.A.
- a. Development of all systems in relation to behaviour. *Opsanus tau* (*Teleostei*) (in collaboration with H. C. TRACY and Th. BATTY)
- b. Pharmacodynamics of development. *Opsanus tau* (*Teleostei*)
- WINDLE, W. F. B.S., M.S., Ph.D., Sc.D., Prof. — Baxter Laboratories, MORTON GROVE, Ill., U.S.A.
- (as Visiting Research Professor) Dept of Anat., Univ. of Pennsylvania, School of Med., PHILADELPHIA 4, Pa, U.S.A.
- a. Factors influencing regeneration of nerve fibers in the central nervous system of adult animals. *Felis domestica* (*Carnivora*), (*Anthropoidea*) (in collaboration with J. L. LITTRELL and E. G. STUART)
- b. Growth and regeneration of the severed spinal cord in embryos. *Gallus domesticus* (*Aves*) (in collaboration with J. L. LITTRELL and E. G. STUART)
- WINGSTRAND, K. G. Dr Phil. — Embryol. Dept, Zool. Inst., Univ. of Lund, LUND, Sweden
- a. Embryology of the pituitary. (*Vertebrata*)
- WINOWSKA, Mrs J. M.Sc. — Zakład Anat. Porównawczej, Inst. Zool. Univ., ul. Sienkiewicza 21, WROCŁAW, Poland
- a. Development of the air-bladder. (*Euphysoclisti*, *Teleostei*)
- WISLOCKI, G. B. F.I.I.E., M.D., A.M., Sc.D., Prof. — Dept of Anat., Harvard Medical School, 25 Shattuck St, BOSTON 15, Mass., U.S.A.
- a. Study on the histochemical reactions of the placenta and fetal membranes. *Rattus norvegicus* (*Rodentia*), *Lepus cuniculus* (*Lagomorpha*), *Homo* (*Primates*)
- b. Study on the structure of the placenta, investigated by electron microscopy. (*Rodentia*), *Homo* (*Primates*)
- WITSCHI, E. F.I.I.E., Ph.D., 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*, *Bufo*, *Alytes* and *Xenopus* (*Anura*) (*Urodela*)
- d. Parabiosis and hormones in sex differentiation. *Triturus torosus*
- e. Metamorphosis of the ear. (*Anura*)
- f. Embryologic and endocrine studies in adreno-gonadal relationships. (*Amphibia*, *Aves* and *Mammalia*)
- g. Nutritional conditions in the incubating egg. (*Aves*)
- WITTEK, Miss M. — Lab. d'Anat. et d'Embryol., Fac. de Méd. de l'Univ., 97 Rue aux Laines, BRUXELLES, Belgique
(no data received on Nov. 1st, 1953)
- WOELLWARTH, C. v. Dr Phil. — Heiligenberg-Inst., (17b) HEILIGENBERG, Kreis Ueberlingen/Bodensee, Deutschland
(no data received on Nov. 1st, 1953)

WOERDEMAN, M. W. F.I.I.E., M.D., D.Sc. (Oxon), Prof. — Anat.-Embryol. Inst., Municipal Univ. of Amsterdam, Mauritskade 61, AMSTERDAM O. Holland

- a. Lensregeneration. (*Aves* and *Mammalia*)
- b. Induction in tissue cultures and potencies of cells in tissue culture. (*Aves* and *Mammalia*)
- c. Development of specific substances during induction and regeneration. (*Amphibia* and *Aves*)

WOLFF, Mrs Em. Dr ès Sci. — Lab. de Zool. de la Fac. des Sci. et Lab. d'Embryol. et Tératol. expér. du C.N.R.S., Inst. de Zool. et de Biol. gén., 12 Rue de l'Université, STRASBOURG, France

- a. Rôle des hormones dans la différenciation du sexe par les méthodes d'injections d'hormones et des castrations embryonnaires. Détermination des caractères somatiques précoces (syrinx et tubercule génital). *Anas boschas* (*Aves*) (en collaboration avec Et. WOLFF)
- b. Recherches sur la différenciation et les besoins nutritifs en culture *in vitro* de la syrinx et du tubercule génital de l'embryon. *Anas boschas* (*Aves*)
- c. Recherches sur les besoins nutritifs d'organes embryonnaires explantés et cultivés sur milieu synthétique.

WOLFF, Et. C. F.I.I.E., Dr ès Sci., Prof. — Lab. de Zool. de la Fac. des Sci. et Lab. d'Embryol. et Tératol. expér. du C.N.R.S., Inst. de Zool. et de Biol. gén., 12 Rue de l'Université, STRASBOURG, 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* et *Anas* (*Aves*) (en collaboration avec Mrs Em. WOLFF, Mrs Y. LUTZ—OSTERTAG, Mrs D. SCHEIB—PFLEGER, Miss B. SALZGEBER, A. HAMPÉ et G. STRUDEL)
- c. Problèmes relatifs à la régénération des Planaires d'eau douce. Origine des cellules de régénération et processus d'induction dans la régénération. *Polycelis nigra*, *Euplanaria lugubris* (*Turbellaria*) (en collaboration avec Mrs Fr. STEPHAN—DUBOIS et Th. LENDER)
- 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 Miss K. HAFFEN, Mrs Em. WOLFF etc.)

WOLSKY, A. Dr Phil. (Budapest) — Unesco Science Co-operation Office for South East Asia, Dj. Diponegoro 76, DJAKARTA, Indonesia

- a. Comparative study of the rate of cleavage of marine ova in tropical regions, at normal and abnormal temperatures. Various species (*Echinoidea*), various species (*Polychaeta*)
- b. The influence of the central nervous system (optic tract) on the development of the compound eye. *Philosamia cynthia* (*Lepidoptera*)

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

(no embryological work in progress)

- WRBA, H. Dr Med. — Inst. für exp. Krebsforschung der Univ. Heidelberg, Vossstrasse 3, HEIDELBERG, Deutschland
- Untersuchungen zur Frage der Differenzierung insbesondere des Zentralnervensystems und der Herzanlage *in vivo* und *in vitro*. (*Rodentia*)
- YAMADA, T. D.Sc. (Rigakuhakushi), Prof. — Biol. Inst., Fac. of Sci., Nagoya Univ., Chigusa-Ku, NAGOYA, Japan
- Double potential theory of early ontogenesis, its application to the regionality of the organizer action. (*Vertebrata*)
 - Regional induction by some fractions of adult tissue tested on the isolated ectoderm. *Triturus pyrrhogaster* (*Urodela*)
- YAMAMOTO, K. Rigakushi (M.S.), Asst Prof. — Akkeshi Marine Biol. Stat., Hokkaido Univ., AKKESHI, Japan (attached to the Sci. Fac. of Hokkaido Univ.) (no data received on Nov. 1st, 1953)
- YAMAMOTO, T. Dr Sc., Prof. — Biol. Inst., Fac. of Sci., Nagoya Univ., Chigusa-Ku, NAGOYA, Japan
- On the mechanism of fertilization and activation. *Oryzias latipes* (*Teleostei*)
 - Experimental analysis of the development of sexual characters. *Oryzias latipes* (*Teleostei*)
 - Experimental sex-reversal in the genetic males. *Oryzias latipes* (*Teleostei*)
 - Melanin formation in color phenotypes. *Oryzias latipes* (*Teleostei*) (in collaboration with T. HISHIDA)
- YANAGIMACHI, R. Rigakushi (M.S.) — Zool. Inst., Fac. of Sci., Hokkaido Univ., North 8, West 5, SAPPORO, Japan (no data received on Nov. 1st, 1953)
- YAO, T. Ph.D. — Lab. of Developm. Physiol., Inst. for Exper. Biol., Acad. Sinica, 865 Chang Ning Rd, SHANGHAI, China (no data received over some years)
- YASHIKA, K. — Lab. of Embryol. and Exper. Morphol., Zool. Inst., Dept of Sci., Kyoto Univ., KYOTO, Japan
- Hormonal mechanism of metamorphosis. *Bombyx mori*, *Luehdorfia japonica* (*Lepidoptera*) and *Lucillia* (*Diptera*)
- YATES, Miss H. B. B.Sc. (St Andrews) — Inst. of Animal Genet., Univ. Dept of Genet., King's Buildings, West Mains Rd, EDINBURGH 9, Scotland (U.K.)
- Use of radioactive isotopes for tracing the movement of labelled substances into and within embryos. (*Amphibia*) (in collaboration with C. H. WADDINGTON and J. DAINTY)
- YNTEMA, C. L. F.I.I.E., Ph.D., Prof. — Dept of Anat., School of Med., State Univ. of New York, 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)
 - Effect of sulfa drugs on the embryo. *Mus musculus* (*Rodentia*) (in collaboration with W. S. HAMMOND)
 - Development of the visceral skeleton. *Gallus domesticus* (*Aves*) (in collaboration with W. S. HAMMOND)

- YOUNG, W. C. Ph.D., Prof. — Dept of Anat., Univ. of Kansas, Med. School, 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 Exper. Histol., Fac. of Med., Univ. of Leyden, Wassenaarseweg, Boerhaavekwartier, LEIDEN, Holland
- Factors governing dentin formation. *Mus musculus* (Rodentia)
 - Rôle of the odontoblasts in the formation of secondary dentin. *Mus musculus* (Rodentia)
 - Cartilage and bone formation *in vitro*. *Homo sapiens* (Primates)
- ZACWILICHOWSKA, Miss K. D.Sc. — Zool. Dept of the Jagellonian Univ., St Anne 6, KRAKOW, Poland
(no data received on Nov. 1st, 1953)
- ZAHND, J. P. — Inst. d'Embryol., Fac. de Méd., 1 Place de l'Hôpital, STRASBOURG, France
- Développement du squelette. Facteurs influençant le développement. *Anas* (Aves)
- ZENKER, W. J. Dr Med. — Anat. Inst. der Univ. Wien, Währingerstr. 13, WIEN IX, Oesterreich (no embryological work in progress)
- ZEUTHEN, E. Dr Phil. — Lab. of Zoophysiol., Nat. Sci. Fac., Univ. of Copenhagen, Juliane Mariesvej 32, COPENHAGEN Ø, Denmark
- Study with Cartesian divers of mitotic rhythm in metabolism during cleavage period. (*Echinodermata* and *Amphibia*)
 - Determination of desoxyribonucleic acid in eggs and embryos, evidence of cytoplasmic desoxyribosides. (*Amphibia*) (in collaboration with E. HOFF-JÖRGENSEN)
 - Mitotic rhythm in reduced weight (weight below water) during cleavage. *Psammechinus microtuberculatus* (*Echinoidea*)
- 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 15, England (U.K.)
(no data received on Nov 1st, 1953)
- ZUIDWEG, M. H. J. — Anat.-Embryol. Inst., Municipal Univ. of Amsterdam, Mauritskade 61, AMSTERDAM O, Holland
- Quantitative development of different proteins in the embryonic eye-lens. *Gallus domesticus* (Aves)
- ZWEIBAUM, J. Dr. Prof. — Inst. of Histol. and Embryol., Acad. of Med., ul. Chałubińskiego 5, WARSZAWA, Poland
- Le comportement de graisses dans le placenta. *Homo* (Primates), *Mus musculus* (Rodentia) (*Insecta*)
 - Le glycogène, les graisses et les acides nucléiques dans les oeufs.
- ZWILLING, E. Ph.D., Assoc. Prof. — Dept of Genet., Coll. of Agric., Univ. of Connecticut, Storrs Agric. Exper. Stat., STORRS, Conn., U.S.A.
- Effects of thyroxin on the embryo. *Gallus domesticus* (Aves)
 - Analysis of tail development. *Gallus domesticus* (Aves)
 - Disaggregation and reaggregation of early embryos. Effects on differentiation. *Gallus domesticus* (Aves)
 - Culture behavior of early embryonic tissues. *Gallus domesticus* (Aves)

LIST OF INSTITUTES

with Composition of Scientific Staffs

(geographical order)

N. A F R I C A

Alexandria, Moharram Bey, Alexandria Univ., Fac. of Sci.,
Dept of Zool.

- RAMADAN, M. Head of Dept
- * SEDRA, S. N. Asst Prof.
- * MICHAEL, M. I. Demonstr.

Rabat, Avenue Biarnay, Centre d'Etudes Supérieures Scientifiques,
Lab. de Biol. Anim.

- * METTETAL, C. Dir.
- * BUSER—LAHAYE, Mrs J.

S. A F R I C A

Bloemfontein, Univ. of the O.F.S.,
Dept of Zool.

- DUYVENÉ DE WIT, J. J. Prof.
- * PLETZEN, R. van Lect.
- * DREYER, Miss M. V. Asst

Cape Town, Rondebosch, Univ. of Cape Town, Dept of Zool.

- DAY, J. H. Prof., Dir.
- * MILLARD, Mrs N. A. H. Lect.

Cape Town, Seapoint, Beach Rd. Div. of Fisheries

- MARCHAND, J. M. Prof. Dir.
- * DAVIES, D. H. Prof., Officer
- * JAGER, B. de Prof., Officer

Johannesburg, Univ. of the Witwatersrand,

Med. School,
Dept of Physiol.

- GILLMAN, J. Prof.
- (no data on Nov. 1st, 1953)
- Dept of Anat.

GILBERT, Miss Chr. Sen. Lect.
(no data on Nov. 1st, 1953)

Fac. of Sci., Dept of Zool.

- * BALINSKY, B. I. Lect.
- * KALK, Mrs M. Lect.
- * McKERROW, Miss M. J. Lect.
- * TROLLOPE, Miss E. M.
- * GUBBAY, Miss V.
- * ANDREW, Miss A.

Pietermaritzburg, Univ. of Natal,
Dept of Zool.

- SILBERBAUER, Mrs B. I.
- PATERSON, Miss N. F.
- (no data over some years)

Potchefstroom, Potchefstroom Univ.,
Dept of Zool.

- EISELEN, G. T. S. Prof., Dir.
- RYKE, P. A. J. Docent
- EEDEN, J. A. van Docent
- (no data over some years)

Pretoria, Univ. of Pretoria, Fac. of Sci., Dept of Zool.

- MALAN, D. E. Prof., Head
- * ELOFF, F. C. Lect.
- * LOMBARD, G. L. Lect.

Stellenbosch, Univ. of Stellenbosch,
Fac. of Sci., Zool. Inst.

- TOIT, C. A. du Prof., joint Dir.
- VILLIERS, C. G. S. de Prof.,
joint Dir.
- * MALAN, Miss M. E. Sen. Lect.

Guest-workers:

- * BARRY, T. H.
- * WESTHUIZEN, C. M. v. d.
- * PENTZ, Miss K.
- * FRANK, G. H.
- * ENGELBRECHT, D. v. Z.
- * DIJK, D. E. van

N. A M E R I C A

C A N A D A

ALBERTA (Alta)

Edmonton, Univ. of Alberta, Med.

School, Dept of Anat.

- * SHANER, R. F. Prof., Dir.

* Names of investigators who have sent in their data over this year.

BRITISH COLUMBIA (B.C.)

Vancouver, Univ. of British Columbia, Dept of Zool.

- * CLEMENS, W. A. Head
* FORD, P. Prof. Histol. & Embryol.

NOVA SCOTIA

Wolfville, Acadia Univ., Fac. of Sci., Dept of Biol.

- BAYNE, P. M. Prof., Chairman
* McCALLION, D. J. Prof.

ONTARIO (Ont.)

Guelph, Ontario Agricultural Coll., Dept of Entomol. and Zool.

- * OZBURN, R. H.
Hamilton, McMaster Univ., Fac. of Arts and Sci., Hamilton Coll., Dept of Biol.

KLEERKOPER, H. Chairman
* SMITH, Miss B. T.

Kingston, Queens Univ., Med. School

- * KROPP, B. N. Prof., Dir.
London, Univ. of Western Ontario, Dept of Zool.

UNITED STATES**ALABAMA (Ala)**

Birmingham 5, 620 South 20th St. Med. Center of the Univ. of Alabama, Schools of Med. and Dent., Dept of Anat.

- FOLEY, J. O. Prof., Chairman
* SENSENIG, E. C. Prof.
* KLAPPER, Cl. E. Assoc. Prof.
* BOYER, C. C. Asst Prof.
* MOFFETT, B. C., Jr Asst Prof.

CALIFORNIA (Cal.)

Berkeley 4, Univ. of California, Dept of Zool.

- * EAKIN, R. M. Prof.
* MAZIA, D. Prof.
* HARRIS, M. Assoc. Prof.
* BERG, W. E. Asst Prof.
KUTSKY, Mrs P. B. Res. Assoc.
* HARVEY, E. B.
* BLUMENTHAL, G. H.

- * BATTLE, Miss H. I. Prof.

QUEBEC

Montreal, McGill Univ., Dept of Zool.

- BERRILL, N. J. Prof.
(no data over some years)
Dept of Anat.

* LEBLOND, C. P. Prof.
Montreal, 2900 Boulevard du Mont Royal, Univ. de Montreal, Fac. de Méd., Dépt d'Histol. et d'Embryol.

- BONIN, W. Prof., Dir.
FRAPPIER, J. Prof., Agrégé
(no embryol. work in progress)

Ottawa, Univ. of Ottawa, Fac. of Med.,

- Dept of Anat.
* MENSCHIK, Z. Asst Prof.
Dept of Histol.

BÉLANGER, L. F. Prof.
(no data on Nov. 1st, 1953)

SASKATCHEWAN

Saskatoon, Univ. of Saskatchewan, Dept of Anat.

- JACKSON, J. L. Dir.
* ALTSCHUL, R. Prof.

- * COHEN, A. I.
* KUTSKY, R. J.
THURMOND, W.

Los Angeles 24, Univ. of California,

- Dept of Zool.
* SCHECHTMAN, A. M. Prof.
* HEIM, W. G.
* WELLER, E.
* KNIGHT, Miss P.
* SMITH, A. S.
* HIRATA, A. A.
Atomic Energy Project
* SCHJEIDE, A. E.
School of Med., Dept of Anat.
* GREULICH, R. C.

Palo Alto, Stanford Univ., Dept of Biol.

- * DUSHANE, G. Prof.
WHITAKER, D. Prof.

Pasadena 4, California Inst. of
Technology, Div. of Biol.,
Dept of Embryol.

* TYLER, A. Prof., Head of Dept
* JAFFE, L. Grad. stud. and

Research Fellow

VOGT, Miss M.

(from Neustadt, Germany)

* MERRITT, Mrs J. K.

Research Asst

* BROOKBANK, J. W.

Grad. stud. and Teaching Asst

Stanford, Stanford Univ.,

Dept of Biol. Sci.

* TWITTY, V. C. Prof., Dir.

* NIU, M. C.

* JACOBSEN, A.

* CHURCH, G.

* HEATH, H. D.

COLORADO (Col.)

Denver 20, 4200 East Ninth Ave.

Univ. of Colorado, Med. Center,

Div. of Chem. Embryol.

* HERRMANN, H. Prof., Dir.

* KÖNIGSBERG, I. R.

* LERMAN, L.

MACKENZIE, J.

* ROTHFELS, U.

CONNECTICUT (Conn.)

Middletown, Wesleyan Univ.,

Dept of Biol.

GOODRICH, H. B. Prof., Dir.

* CASPARI, E. W. Prof.

New Haven 11, Yale Univ.,

School of Med., Anat. Dept

* STONE, L. S. Prof.

* CRELIN, E. S.

Osborn Zool. Lab.

* NICHOLAS, J. S. Prof., Dir.

* HARRISON, R. G. Prof.

(Emer.)

* BOELL, E. J. Prof.

* STONE, L. S. Prof.

* POULSON, D. F. Assoc. Prof.

* SHEN, S. C. Res. Asst

* TRINKAUS, J. P. Instr.

* WILENS, Miss S. Res. Asst

* RUDNICK, Miss D.

Storrs, Univ. of Connecticut,

Dept of Zool.

* CLARK, H. Prof.

Coll. of Agric., Dept of Genet.,

Storrs Agric. Exp. Stat.

* LANDAUER, W. Prof., Dir.

* ZWILLING, E. Assoc. Prof.

FLORIDA

Tallahassee, Florida State Univ.,

Dept of Zool.

* METZ, C. B.

GEORGIA (Ga)

Atlanta, Emory Univ.,

Dept of Biol.

* CLEMENT, A. C. Prof.

* HUNT, E. L. Prof.

Augusta, Med. Coll. of Georgia,

Dept of Microsc. Anat.

* HEUSER, C. H. Prof.

ILLINOIS (Ill.)

Chicago 37, Univ. of Chicago,

Physiol. Lab.

LILLIE, R. S.

(no data on Nov. 1st, 1953)

Biol. Sciences Div., Dept of Zool.

MOORE, C. R. Prof. (Embryology, Sex Biology), Chairman

* WEISS, P. A. Prof. (Embryology, Exp. Morphology), Dir.,

and Chairman, Divisional Biology Sequence

PRICE, Miss D. Assoc. Prof. (Embryology, Sex Biology)

* OVERTON, Mrs J. Res. Assoc.

* FERRIS, W. R. Res. Asst

* LASH, J. W.

Chicago 37, 5700 S. Ingleside, Univ. of Chicago, Whitman Lab.

* MINTZ, Miss B. Asst Prof.

Evanston, Northwestern Univ.,

Cresap Biol. Lab.

* WATTERSON, R. L.

Morton Grove, Baxter Inst. for Med. Research

* WINDLE, W. F. Prof., Dir.

* LITTRELL, J. L. Res. Assoc.

Urbana, Univ. of Illinois,

Dept of Zool.

* ADAMSTONE, F. B. Prof.,

Head of Dept

* ROSE, S. M. Prof.

KUGLER, O. E. Assoc. Prof.

INDIANA (Ind.)

Bloomington, Indiana Univ.,
Dept of Zool.

- * TORREY, T. W. Chairman
- * CROWELL, P. S.
- * EBERT, J. D. Asst Prof.
- * ALBRIGHT, J. F.
- * DUFFEY, L. M.
- * MUN, A. M.
- * VOGEL, N. W.
- * TOLMAN, R.

Franklin, Franklin Coll.

- * RHODES, S. A.

Indianapolis 6, The Lilly Res. Labs,
Biol. Res. Dept, Tissue Culture Res.

JOHNSON, I. S.

(no embryol. work in progress)

IOWA

Ames, Iowa State Coll., Div. of Sci.,
Dept of Zool. and Entomol.

HARRIS, H. M. Dir.

Iowa City, State Univ. of Iowa,
Dept of Zool.

- BODINE, J. H. Prof., Dir.
- * WITSCHI, E. Prof., Dir. of
Embryol. Lab.
- * KOLLROS, J. J. Assoc. Prof.
- * BRUNER, Miss J. A. Res.
Assoc.
- * CHANG, C. Y. Res. Assoc.
- FU, Miss Yu-Ying Res. Asst
- * BERGEIJK, W. A. van
Res. Asst

WEST, W. L.

KANSAS (Kan.)

Lawrence, Univ. of Kansas,
Med. School, Dept of Anat.

- * ROOFE, P. G. Prof., Dir.
- * TRACY, H. C. Prof. (Emer.)
- * YOUNG, W. C. Prof.
- * LATIMER, H. B. Prof. (Emer.)
- * BATTY, Th. V. Asst Instr.
- * WENGER, Mrs E. L.
- * WENGER, B. S.
- * TEMPELTON, M. Instr.
Grad. students:
- * WINBLAD, J. N.

- * KELLER, L.
- * JANOSKY, I.
- * PENFOLD, R.
- * CATES, C. H.

KENTUCKY (Ky)

Louisville 2, 101 West Chestnut
St, Univ. of Louisville, School of
Med., Dept of Anat.

- * HALL, E. K.

MAINE (Me)

Bar Harbor, Roscoe B. Jackson
Memorial Lab.

LITTLE, C. C. Prof., Dir.
HUMMEL, Miss K. P. Res.

Assoc.

SAWIN, P. B. Prof., Res.

Assoc.

RUNNER, M. N. Res. Assoc.

AVIS, F.

CRARY, D. D.

SMITHBERG, M.

(no data on Nov. 1st, 1953)

MARYLAND (Md)

Baltimore 1, Univ. of Maryland,
School of Med., Dept of Anat.

- * McCAFFERTY, R. E.

Baltimore 5, Wolfe and Madison
Sts, Carnegie Inst. of Washington,
Dept of Embryol.

- * CORNER, G. W. Prof. Dir.
- * BURNS, R. K. Member
- * REYNOLDS, S. R. M. Acting
Dir. 1952-'53, Member
- * RAMSEY, Miss E. M. Res.
Assoc.

- * BARTELMEZ, G. W.

Consultant

- * CSAPO, A. I. Member
- * BÖVING, B. G. Member
- * BISHOP, D. W. Member
- * FLEXNER, L. B. Res. Assoc.
(extramural)
- * HERTIG, A. T. Res. Assoc.
(extramural)
- * HEUSER, C. H. Res. Assoc.
(extramural)
- GILLMAN, J. Res. Assoc.
(extramural)

Baltimore 18, The Johns Hopkins

Univ., Fac. of Phil., Dept of Biol.

* WILLIER, B. H. Prof., Dir.

* BURNS, R. K. Hon. Prof.

* RAWLES, Miss M. E. Res.
Assoc.

* SIPPEL, T. O. Instr.

* COULOMBRE, A. J. Bruce
Fellow

* GRABOWSKI, C. T. N.S.F.
Fellow

* DOSSEL, W. E. Jun. Instr.

* REAMS, W. M., Jr Jun. Instr.

Beltsville, U.S. Dept of Agric.,

Bureau of Anim. Industry

CASE, J. F.

(no data over some years)

Bethesda, Nat. Cancer Inst.,

Developmental Physiol. Unit

* GROBSTEIN, C.

Bethesda 14, Nat. Inst. of Health

SHAPIRO, H. Prof.

(no data over some years)

Edgewood, Army Chemical Center,

Med. Labs

* BODENSTEIN, D.

KRAUSS, M.

Washington 7, D.C., Georgetown

Univ., School of Med.

KARCZMAR, A. G.

(no data on Nov. 1st, 1953)

MASSACHUSETTS (Mass.)

Boston 15, 25 Shattuck St,

Harvard Univ., Med. School,

Dept of Anat.

* WISLOCKI, G. B. Prof., Dir.

* SNYDER, F. F. Assoc. Prof.

* PADYKULA, Miss H. A.

Dept of Pathol.

* HERTIG, A. T.

* ADAMS, Miss E. C.

Dept of Gynecol.

* ROCK, J.

Boston 15, 221 Longwood Ave.,

Boston Lying-in Hospital

* HERTIG, A. T.

Brookline, 245 Pond Ave.,

Free Hospital for Women

* HERTIG, A. T.

* ROCK, J.

* MULLIGAN, W. J.

Cambridge 38, Divinity Ave.,

Harvard Univ., Biol. Lab.

HOADLEY, L. Prof.
(Embryol.)

ROSENBAUM, R. M.

DAWSON, A. B. Prof.

(Histol. & Cytol.)

WILLIAMS, C. M. Prof.

(Endocrinol.)

WETMORE, R. H.

(no data over some years)

Cambridge 39, Massachusetts

Inst. of Technol., Dept of Biol.

LAMY, F.

(no data over some years)

Northampton, Smith Coll.,

Dept of Zool.

TE WINKEL, Miss L. E.

Prof., Chairman

CARPENTER, Miss E. Prof.

* VILLAFRANCA, G. W. de
Instr.

Shrewsbury, 222 Maple Ave.,

Worcester Foundation for Exper.

Biol.

PINCUS, G. Prof., Dir.

CHANG, M. C.

(no data on Nov. 1st, 1953)

MICHIGAN (Mich.)

Ann Arbor, 2500 East Med. Build.,
Univ. of Mich.,

Med. School, Dept of Anat.

PATTEN, B. M. Prof.,

Chairman of Dept

BARRY, A. Assoc. Prof.

ROGERS, K. T.

(no data over some years)

Dept of Zool.

BROWN, D. E. S. Chairman

* STOCKARD, A. H. Assoc.

Prof.

* MARKERT, C. L. Asst Prof.

* KEMP, N. E. Asst Prof.

MINNESOTA (Minn.)

Minneapolis 14, Univ. of Minne-

sota, Coll. of Sci., Lit. and Arts,

Dept of Zool.

MINNICH, D. E. Chairman

* SPRATT, N. T., Jr Prof.

STEINBERG, M. S.
 School of Med., Inst. of Anat.
 BOYDEN, E. A. Head of Dept
 WELLS, L. J. Prof.
 HARTMANN, J. F. Asst Prof.
 (no data over some years)

MISSOURI (Mo.)

Columbia, Univ. of Missouri,
 Dept of Zool.
 ELDER, W. H. Prof.,
 Chairman
 NOVITSKI, E. Assoc. Prof.
 * SHAVER, J. R. Asst Prof.
 St Louis 5, Lindell and Skinker
 Aves, Washington Univ.,
 Dept of Zool.
 * HAMBURGER, V. Prof.,
 Head of Dept
 HALL, T. S. Prof.
 * MOOG, F. Assoc. Prof.
 * LEVI-MONTALCINI, R.
 Assoc. Prof.

NEW JERSEY (N.J.)

Princeton, Princeton Univ.,
 Dept of Biol.
 * BUTLER, E. G. Prof.
 * FANKHAUSER, G. Prof.
 * BONNER, J. T. Assoc. Prof.
 * HARVEY, Mrs E. BROWNE
 Indep. Invest.

NEW YORK (N.Y.)

Brooklyn 2, 350 Henry St, State
 Univ. of New York, Coll. of Med.,
 Dept. of Anat.
 * GENNARO, J. F., Jr Instr.
 Brooklyn 10, Bedford Ave and Ave
 H., Brooklyn Coll., Dept of Biol.
 * CHENEY, R. H. Prof.
 * MARTIN, Miss B. A. Instr.
 Brooklyn 12, Linden Boulevard and
 Rockaway Parkway,
 Beth-el Hospital
 * GRUENWALD, P. Dir.
 of Labs
 Buffalo 14, 3435 Main St, School of
 Med., Dept of Anat.
 * HUMPHREY, R. R. Prof.
 Ithaca, Cornell Univ.,
 Dept of Zool.

ADELMANN, H. B.
 SINGER, M. Prof.
 (no data on Nov. 1st, 1953)
 New York, 66th St, York Ave,
 Rockefeller Inst. for Med. Res.

MIRSKY, A. Dir.
 (no data received)
 New York, New York Univ.,
 Dept of Zool.
 * DALTON, H. C. Assoc. Prof.
 New York 16, 477 First Ave, New
 York Univ., Coll. of Dentistry,
 Dept of Histol.
 * GOLDSMITH, E. D.
 New York 27, Broadway and 116th
 St, Columbia Univ., Fac. of pure
 Sci., Dept of Zool.
 * MOORE, J. A. Prof.
 * BARTH, L. G. Prof.
 * BARTH, Mrs L. J. Res. Assoc.
 * GRANT, Ph.
 * GREGG, J. R. Asst Prof.
 * MOORE, Mrs B. C.
 * MALAMED, S.
 * TALEPOROS, P. D.
 * WAELSCH, Mrs S. G.

Res. Assoc.
 New York 32, 722 West 168th St,
 the N.Y. Psychiatric Inst.,
 Dept of Pharmacol.

* RUDNICK, Miss D.
 New York 32, 630 West 168th St,
 Columbia Univ.,
 Coll. of Phys. and Surg., Dept of
 Radiology, Radiol. Res. Lab.

FAILLA, G. Prof., Chairman
 * RUGH, R. Assoc. Prof.
 Dept of Anat.

COPENHAVER, W. M. Prof.
 DETWILER, S. R.
 (no data received)

New York 33, 186th St and Amster-
 dam Ave, Yeshiva Univ.,
 Dept of Biol.

ATLAS, M. Assoc. Prof.
 (no data over some years)
 New York, Flushing 67, L.I.,
 Queens Coll., Dept of Biol.
 * COLWIN, A. L. Prof.

* COLWIN, Mrs L. H. Prof.
Rochester 3, Univ. of Rochester,
Coll. of Arts and Sci.,
Dept of Biol.

COOPER, K. Dir.
* HOLTFRETER, J. K. F. Prof.
* MUCHMORE, W. B.
* HAGGIS, A. J.
Schenectady 8, Union Coll.,
Dept of Biol.

CLARK, L. B.
RAPPAPORT, R., Jr
(no data on Nov. 1st, 1953)
Syracuse 10, State Univ. of N.Y.,
Med. Coll., Dept of Anat.

* ARMSTRONG, P. B. Prof.,
Chairman
* YNTEMA, C. L. Prof.
* SPOFFORD, W. R. Assoc.
Prof.
* HAMMOND, W. S. Assoc.
Prof.

Dept of Zool.
* EVANS, H. J.

NORTH CAROLINA (N.C.)

Chapel Hill, Univ. of N. Carolina,
Dept of Zool.
* COSTELLO, D. P. Kenan
Prof., Chairman of Dept
* LEHMAN, H. E. Assoc. Prof.
* HENLEY, Miss C. Res. Assoc.
* KENT, D. E. Collaborator
Durham, Duke Univ.,
Dept of Zool.

GRAY, I. E. Prof., Dir.
HARGITT, G. T. Prof. (Emer.)
PEARSE, A. S. Prof. (Emer.)
* BOOKHOUT, C. G. Assoc.
Prof.
* NACE, G. W. Asst Prof.
* HORN, E. C. Asst Prof.

NORTH DAKOTA

Grand Forks, Univ. of N. Dakota,
School of Med., Dept of Anat.
* SNOOK, T.

OHIO

Columbus 10, Ohio State Univ.,
Dept of Anat.
KNOUFF, R. A. Chairman

BAKER, R. C. Prof.
EDWARDS, L. F. Prof.
(no date over some years)

OKLAHOMA (Okla)

Oklahoma City, Univ. of Oklaho-
ma, School of Med., Dept of Anat.
LACHMAN, E. Chairman
RICHTER, K. Assoc. Prof.
CAIRNS, J. M. Asst Prof.
(no data on Nov. 1st, 1953)

OREGON (Ore.)

Corvallis, Oregon State Coll.,
Dept of Zool.
* HILLEMANN, H. H.
Eugene, Univ. of Oregon, Lib. Arts
and Grad. Coll., Dept of Biol.
RISLEY, P. L. Head of Dept
HUESTIS, R. R. Prof.
CLANCY, C. W. Assoc. Prof.
(no data over some years)
Portland 3, Univ. of Portland, Coll.
of Sci., Physiol. Lab.
* MOORE, A. R. Prof., Dir.
* WHEELER, A. J. Instr.

PENNSYLVANIA (Pa)

Bryn Mawr, Bryn Mawr Coll.,
Dept of Biol.
GARDINER, Miss M. Dir.
* OPPENHEIMER, Miss J. M.
Prof.
Philadelphia 4, Univ. of Pennsyl-
vania,
School of Med., Dept of Anat.
* FLEXNER, L. B. Prof.,
Chairman

CLARK, E. R. Prof. (Emer.)
* WILLIAMS, R. G. Prof.
* HOGUE, Miss M. J. Assoc.
Prof. (Emer.)
* PIATT, J. Assoc. Prof.
* LIU, J. C. Asst Prof.
* WILLIAMS, S. C. Assoc. Prof.
* HOLTZER, H. Assoc.
Dept of Zool.

HEILBRUNN, L. V. Prof., Dir.
FLICKINGER, R. A. Prof
NELSEN, O. E. Prof.
PARMENTER, C. L. Prof.
(no data over some years)

Philadelphia 11, Fox Chase, Burholme Ave, Lankenau Hosp. Res. Inst. and Inst. for Cancer Res., Dept of Embryol.

REIMANN, S. P. Dir. of Inst.
 * BRIGGS, R. W. Head of Dept
 * KING, T. J. Res. Assoc.
 Dept of Chemotherapy
 CREECH, H. J. Head of Dept
 * GREEN, Mrs E. U. Assoc.

Pittsburgh 13, Univ. of Pittsburgh, School of Med., Dept of Anat.

* HOOKER, D. Prof., Head of Dept
 * DONALDSON, J. C. Prof.
 * HUMPHREY, Miss T. Prof.
 * REYER, R. W. Asst Prof.
 Dept of Biol. Sci.

GRAY, P. Prof., Head of Dept
 BUCHSBAUM, R. Prof.
 (no embryol. work in progress)

Pittsburg 19, Duquesne University
 HECKERMAN, R. O.
 (no data over some years)

RHODE ISLAND (R.I.)

Kingston, Univ. of Rhode Island, Dept of Zool.

* HARTUNG, E. W. Assoc. Prof., Head of Dept

Providence 12, Brown Univ., Arnold Biol. Lab.

* WILSON, J. W. Prof., Head of Dept
 * CHASE, H. B. Prof.
 * EDDS, M. V., Jr Assoc. Prof.
 * WEISZ, P. B. Assoc. Prof.
 * GOSS, R. M. Instr.

TENNESSEE (Tenn.)

Memphis 3, Univ. of Tennessee, Fac. of Biol. Sci., Med. Units Div.

* ALDEN, R. H. Chief of Div. of Anat.
 * FITZGERALD, L. R. Asst Prof.
 * COHN, S. A. Asst Prof.
 * CORLISS, C. E. Instr.

TEXAS (Tex.)

Austin 12, Univ. of Texas, Dept of Biol.

OLIVER, C. P. Chairman
 (no embryol. work in progress)

Galveston, Univ. of Texas, Med. Branch, Dept of Anat.

DUNCAN, D. Dir.
 * SINCLAIR, J. G. Prof.
 * BLOUNT, R. F. Prof.
 * McNUTT, W. Prof.

Houston 5, 1200 M.D. Anderson Blvd, Texas Med. Center, Baylor Univ., Coll. of Med., Dept of Anat.

ROBERTSON, G. G. Assoc. Prof.

PERRY, J. H. Assoc. Prof.
 HETTIG, R. A. Assoc. Prof.
 (no data over some years)

Dept of Pathol.
 NEWTON, B. L. Asst Prof.
 GALINSKY, I.
 (no embryol. work in progress)

San Antonio, Robt B. Green Hosp.
 * MANHOFF, L. J.

UTAH

Salt Lake City 1, Univ. of Utah, Dept of Genet. and Cytol.

* NEWBY, W. W. Head of Dept

VERMONT (Vt)

Burlington, Univ. of Vermont, Coll. of Med., Dept of Anat., Lab. of Histol. and Embryol.

NEWHALL, C. Assoc. Prof., Chairman

JORDAN, H. Prof.
 NOVIKOFF, A. B. Assoc. Prof.

(no data over some years)

VIRGINIA (Va)

Charlottesville, The Univ. of Virginia, Samuel Miller Biol. Labs

* DENT, J. N. Assoc. Prof.
 School of Med., Dept of Anat.

* MCKEEHAN, M. S.
Morgantown, West Virginia Univ., School of Med.

DODDS, G. S. Dir.
 CHANDLER, S. B. Prof.
 WILLIAMS, T. W. Prof.
 (no embryol. work in progress)
WASHINGTON (Wash.)
 Friday Harbor, Friday Harbor Labs
 WHITELEY, A. H. Prof.
 (no data over some years)
 Seattle 5, Univ. of Washington,
 Dept of Zool.
 MARTIN, A. W. Dir.
 FERNALD, R. L.
 (no data over some years)
 School of Med.
 * ROOSEN-RUNGE, E. C.
 Spokane 11, Gonzaga Univ.,
 Dept of Biol.
 FOUBERT, E. L., Jr Dir.

GUBBINS, J. F. Asst Prof.
 (no embryol. work in progress)
WISCONSIN (Wis.)
 Madison, Univ. of Wisconsin,
 Dept of Anat.
 MORTENSEN, O. A.
 Chairman
 * BAST, T. H. Prof.
 * MOSSMAN, H. W. Prof.
 * ORSINI, Mrs M. WARD—
 * CONAWAY, C. H.
 Milwaukee 3, 1217 West Wisconsin Ave, Marquette Univ.,
 Dept of Biol.
 * REIS, R. H. Assoc. Prof.,
 Head of Dept
 STEIL, W. N. Prof.
 * O'BRIEN, J. P. Asst Prof.
 * SAUNDERS, J. W. Asst Prof.

S. A M E R I C A

ARGENTINA

Buenos Aires, Bolivar 1128, Minist.
 de Salud Públ. de la Nac.,
 Centr. de Investig.
 DEL CONTE, E. Dir.
 CHIRIBOGA, J.
 FONTANA, J. S.
 IMBRIANO, O.
 MONET, Miss N. A.
 (no data on Nov. 1st, 1953)
 Tucumán, Miguel Lillo 205, Univ.
 Nac. de Tucumán, Fac. de Ci. Biol.,
 Inst. de Zool.
 CEI, J. M. Dir.
 PISANO, A. Prof. Embryol.
 (no data over some years)

BRASIL

Porto Alegre, Avenida João Pessoa,
 Fac. de Filos., Lab. de Genet.

CHINA

Hangchow, Nat. Univ. of Chekiang,
 Dept of Biol.
 KIANG, H. M. Prof.
 CHOW, P. S. Lect.
 (no data over some years)
 Peiping, Ching Shan Tung Chieh,
 Nat. Univ. of Peking, Coll. of Sci.,

CORDEIRO, A. R.
 (no data over some years)

CHILE

Santiago, Av. Irarrázaval 849,
 Dept de Med. Exper. del Servicio
 Nacional de Salubridad
 LIPSCHUTZ, A. Prof., Dir.
 (no data on Nov. 1st, 1953)
 Santiago, Casilla 2988, Univ. de
 Chile, Inst. de Biol. „Juan Noé”
 BRIONES, H.
 (no data on Nov. 1st, 1953)

URUGUAY

Montevideo, Fac. de Med.,
 Dept de Histol. y Embryol.
 BUNO, W. Prof., Dir.
 (no data over some years)

A S I A

Dept of Zool.
 LI, J. C. Prof.
 (no data over some years)
 Shanghai, 865 Chang Ning Road,
 Acad. Sinica, Inst. of Exper. Biol.,
 Lab. of Developm. Physiol.
 PAI, S. Dir. of Inst.

TUNG, T. C. Vice Dir.
TCHOU SU, Dir. of the Lab.
CHUANG HSIAO HUI,
Res. Fellow

YAO, T. Res. Fellow
(no data over some years)

Tsingtwo, Marine Biol. Lab.

TUNG, T. C.
(no data over some years)

INDIA

Allahabad, Allahabad Univ.,
Zool. Dept

* SRIVASTAVA, M. D. L.
Behar, Patna, Prince of Wales Med.
Coll., Dept of Anat.

SINHA, T. P. Prof.
(no data over some years)

Calcutta 26, Cell Research Unit,
Chittaranjan Cancer Hospital

* MOOKERJEE, S. Head
* DE, P. Res. Fellow
* BOSE, A.

Colombo 8, Ceylon, Kynsey Rd,
Univ. of Ceylon, Fac. of Med.,
Dept of Anat.

CHANMUGAM, P. K. Dir.
(no embryol. work in progress)

INDONESIA

Djakarta, Dj. Diponegoro 76,
Unesco Science Co-operation Office
for South East Asia
* WOLSKY, A.

ISRAEL

Jerusalem, The Hebrew Univ.,
Dept of Zool.

HAAS, G. Prof., Head
REICH, K.

* STEINITZ, H.
* FELDMAN, M.
* EYAL—GILADI, Mrs. H.
* SHULOV, A.
MOSCONA, A.
MOSCONA, Mrs. H.

JAPAN

Fukuoka, Kuyushu Univ.,
Fac. of Sci., Biol. Inst.

* KAWAKAMI, I. Prof.
* KAWAKAMI, Mrs. K. I.
* MIFUNE, S.

TAMANOI, I.

Ikeda, Osaka Pref., Osaka Liberal
Arts Univ., Lab. of Morphol.

* NAKAMURA, O. Prof.
* TAHARA, Y.

Kobe, Kōnan Univ.,
Dept of Lit. and Sci., Biol. Lab.

* TAKAYA, H. Prof.
KAJI, S. Lect.

Kyoto, Kyoto Univ., Dept of Sci.,
Zool. Inst., Lab. of Embryol. and
Exp. Morphol.

* ICHIKAWA, M. Prof., Dir.
* IKUSHIMA, N. Asst
* MASUDA, H. Guest
* NISHITSUTSUJI, J. Res.

stud.

* OKADA, T. Res. stud.
* YASHIKA, K. Guest

Nagoya, Tashiro-Cho, Chigusa-Ku,
Nagoya Univ., Fac. of Sci.,
Biol. Inst.

* YAMAMOTO, T. Prof., Dir.
* SATO, T. Prof.

* YAMADA, T. Prof.
* HAYASHI, Y. Lect.
* KAJISHIMA, T. Lect.

* NAKANO, E. Lect.
* TAKATA, K. Asst
* OSAWA, S. Asst
* HISHIDA, T. Asst
* OKAZAKI, R. Res. Assoc.

Osaka, Kita-ku, Minami-Ogimati,
Osaka City Univ., Inst. of Poly-
technics, Lab. Exp. Embryol.

* ASAYAMA, S. Prof.
* MIYAMORI—YAMAMOTO,
Mrs. H. Asst

* TAKAMOTO, K. Asst
* AMANUMA, A. Asst

Sapporo, North 8, West 5, Hokkai-
do Univ., Fac. of Sci., Zool. Inst.

UCHIDA, T. Prof.
MAKINO, S. Prof.
ICHIKAWA, A. Prof.
KANOH, Y. Asst Prof.

AOTO, T. Asst
YANAGIMACHI, R. Res. stud.
YAMAMOTO, K. (Asst Prof.,
Akkeshi Marine Biol. Stat.)
(no data on Nov. 1st, 1953)

Sendai, Tohoku (Imperial) Univ.
Inst. of Biol., Lab. of Embryol.

MOTOMURA, I. Prof., Dir.
(no data over some years)

Sugashima-Mura, Shima-gun, Mie-
ken, Nagoya Univ., the Sugashima
Marine Biol. Stat.

* SUGIYAMA, M. Dir.

* ISHIKAWA, M. Asst

* KUNO, M. Grad. stud.

Tokyo, Setagaya-ku, Tokyo Metro-
politan Univ., Fac. of Sci.,
Dept of Biol., Embryol. Section

* DAN, K. Prof., Head of Sect.

* DAN, Mrs J. C. Lect.

* OKAZAKI, Miss K. Res. Asst

* KAWAMURA, K. Res. Asst

Tokyo, Tokyo Univ., Fac. of Sci.,
Zool. Inst.

OKADA, Y. K. Prof.

Tokyo, Univ. of Education,
Inst. of Zool.

* OKA, H. Prof., Head

USUI, M. Asst Prof.

SEKIGUCHI, K. Asst

WATANABE, H. Asst
Tokyo, Musashino-shi, Seikei Univ.,
Biol. Inst.

KAJISHIMA, T.

(no data on Nov. 1st, 1953)

Yokohama-Hiyoshi, Keio Univ.,
Biol. Lab.

* MORI, Y. Prof., Head of the
Biol. Inst.

* MORI, H. Asst Prof.

* HAMA, T. Asst Prof.

* GOTO, T. Asst

KATAKURA, Y. Lect.

* ENDO, Y. Lect.

LEBANON

Beirut, American Univ.,
Dept of Biol.

BUTROS, J. M.

TURKEY

Ankara, Veter. Coll. of the Univ.,
Inst. of Histol. and Embryol.

* ERENÇIN, Z.

Istanbul-Beyazit, Univ. Histol.-Em-
bryol. Enst.

CLARA, M. Prof.

A U S T R A L I A

AUSTRALIA

Brisbane, George St, Univ. of
Queensland, Dept of Zool.

STEPHENSON, W. Prof.

BLEAKLY, M. C. Lect.

MATHER, W. B. Lect.

(no embryol. work in progress)

Sydney, Glebe, Parramatta Rd,
Div. of Anim. Health and Product.,
Commonwealth Sci. and Industr.

Res. Org.,

McMaster Anim. Health Lab.

GILL, D. A. Officer-in-Charge

* AUSTIN, C. R. Sen. Res.
Officer

* BRADEN, A. W. H. Res.
Officer

* HARDY, Miss M. H. Sen. Res.
Officer (Guest-worker from
C.S.I.R.O., Wool Biol. Lab.,
Sydney)

Sydney, 17 Randle St, Common-
wealth Sci. and Industr. Res. Org.,

Wool Biol. Lab.

CARTER, H. B. Dir.

* HARDY, Miss M. H. Res.
Officer

Sydney, Univ. of Sydney,
Commonwealth Sci. and Industr.
Res. Org.,

Anim. Genet. Sect.

RENDEL, J. M. Head of Sect.

FRASER, A. S.

(no data on Nov. 1st, 1953)

Sydney, Univ. of Sydney,

Dept of Zool.

* MURRAY, P. D. F. Prof., Dir.

* SULLIVAN, G. E.

Dept of Histol. and Embryol.

STUMP, C. W. Dir.

* CLELAND, K. W.

* O'BRIEN, B. R. A.

NEW ZEALAND

Auckland, Univ. Coll.

STEPHENSON, N. G.

(no data over some years)

EUROPE

AUSTRIA

- Innsbruck, Tyrol,
 Histol.-Embryol. Inst. der Univ.
 * SAUSER, G. Prof., Vorstand
 Wien IX, Währingerstr. 13,
 Anat. Inst. der Univ. Wien
 HAYECK, H. Prof., Dir.
 KRAUSE, W.
 * PRIESCHING, A.
 ZENKER, W. J.

BELGIUM

- Bruxelles, 50 Av. F. D. Roosevelt,
 Univ. libre de Bruxelles, Fac. des
 Sci., Inst. de Zool. Torley-Rous-
 seau, Lab. de Zool.
 BRIEN, P. L. Prof., Dir.
 HERLANT—MEEWIS,
 Mrs H. Chef de Trav.
 MARLIER, G. Asst
 (no data over some years)
 Bruxelles, 97 Rue aux Laines,
 Fac. de Méd. de l'Univ.,
 Lab. d'Anat. et d'Embryol.

DALQ, A. M. Prof., Head
 of Dept

PASTEELS, J. Prof.
 TWIESELNANN, F. Chef
 des travaux

MULNARD, J. Asst
 (no data on Nov. 1st, 1953)

- Lab. d'Histol.
 GÉRARD, P. Head of Dept
 * CORDIER, J. Prof.

Bruxelles-Auderghem, 1850 Chaus-
 sée de Wavre, Univ. libre de Bru-
 xelles, Lab. de Morphol. anim.

- * BRACHET, J. L. A. Prof., Dir.
 * STEINERT, M. Asst
 * FICQ, A. A. Asst
 THOMAS, R. Asst

Gent, Bylokekaai 1, Univ. of Gent,
 Fac. of Med., Lab. of Anat.

- * FAUTREZ, J. C. Prof., Dir.
 * FAUTREZ—FIRLEFYN,
 Mrs N. J.

- * VAKAET, L. C.
 * GOVAERT, J.

Gent, Universiteitstr. 14,

Lab. voor Zool., Afd. Morphol.
 DE CONINCK, L. A. P. Prof.
 HUBLÉ, J.

Guest-workers:
 DENUCÉ, J. M.
 DIERCKS, Fr.

(no data on Nov. 1st, 1953)

Liège, Quai Van Beneden 22,
 Inst. Zool. Ed. van Beneden,
 Dept de Morphol. des Chordés

* DAMAS, H. F. C. Prof.
 Louvain, 38 Rue des Récollets,
 Univ. de Louvain, Inst. d'Anat.

CAMPENHOUT, E. van
 Prof., Dir.

MASY, Miss S.

MEYER, R. de

(no data on Nov. 1st, 1953)

Louvain, 71 Rue de Namur,
 Univ. de Louvain,
 Inst. de Zool., Lab. d'Embryol.

VANDEBROEK, G. Prof., Dir.
 (no data over some years)

DENMARK

Copenhagen Ø, Juliane Mariesvej
 30, Univ. of Copenhagen,
 Fac. of Med., Inst. of Biochemistry

EGE, R. Head
 HOFF-JØRGENSEN, E. Lect.
 (no data on Nov. 1st, 1953)

Copenhagen Ø, Juliane Mariesvej
 32, Univ. of Copenhagen,
 Nat. Sci. Fac., Lab. of Zoophysiol.

BRANDT REHBERG, P. Head
 * ZEUTHEN, E. Lect.

Copenhagen Ø, Universitetsparken
 3, Inst. for Alm. Zool.

* BRØNDSTED, H. V. Prof.,
 Dir.

HOLST CHRISTENSEN, P.
 Amanuensis

Copenhagen, Valby, 8 Gl. Carls-
 bergvej, Carlsberg Lab.,
 Cytochem. Dept

* HOLTER, H. Head of Dept
 * LØVTRUP, S. Asst

ENGLAND

(Vid. UNITED KINGDOM)

FINLAND

Helsinki, Univ. of Helsinki,
Fac. of Med., Dept of Anat.

PESONEN, N. Head of Dept

HJELMMAN, G. Prof.

MUSTAKALLIO, M. Prosector
(no data on Nov. 1st, 1953)

Helsinki, P.-Rautatiekatu 13, Univ.
of Helsinki, Fac. of Mathem. and
Nat. Sci.,

Zool. Lab., Dept of Physiol.

SUOMALAINEN, P. Prof.,

Dir. of Lab., Head of Dept

* TOIVONEN, S. I. Prof.

* KUUSI, Miss T. K.

* SAXÉN, L. O.

* PESONEN, S. K.

FRANCE

Clermont-Ferrand, 1 Av. Vercingé-
torix, Lab. de Zool.

HOVASSE, R. Dir.

* LUTZ, H. Prof.

* LUTZ—OSTERTAG, Mrs Y.
Attachée de Recherches

Marseille, Place Victor Hugo, Lab.
de Zool. gén. de la Fac. des Sci. et
Stat. marine d'Endoume (Marseille)

* ABELOOS, M. Prof., Dir.

* CHANDEBOIS, Miss R. Asst

* CRESP, J. Asst

Nancy, (Meurthe & Moselle),
31 Rue Lionnois, Fac. de Méd. de
Nancy,

Lab. d'Anat., Inst. Anat.

* BEAU, A. A. Prof., Chaire

d'Anat. norm. et d'Organog.

Lab. d'Histol. et Embryol.

LEGAIT, E. Prof., Dir.

* DOLLANDER, A. Agr.

* GRIGNON, G. Asst de trav.
prat.

Students:

* BARTHELEMY, Miss A.

* LOSSEROY, J.

* MARCONNET, R.

* MELNOTTE, P. J.

* VIVIER, Miss F.

Paris Ve, Place Marcelin Berthelot,
Coll. de France,

Lab. d'Histophysiol.

* BENOIT, J. Prof.

* LEROY, P. J. M.

Lab. de Morphol. expér. et Endo-
crinol.

COURRIER, R.

(no data over some years)

Lab. d'Embryogénie comp.

FAURÉ-FREMIET, E. Prof.,
Dir.

DEVILLERS, Ch. Sous-Dir.

DEROUX, G.

FRANÇOIS, Y.

GIRAUD, Miss D.

(no data over some years)

Paris Ve, 61 Rue de Buffon,

Muséum Nat. de Paris,

Lab. de Zool.

FAGE, L. Dir.

VACHON, M. Asst

(no data over some years)

Paris Ve, 13 Rue Pierre Curi-

Inst. de Biol. Physicochim.

* LALLIER, R. A.

Paris Ve, 7 Rue Cuvier, Univ. de
Paris, Fac. des Sci.,

Lab. de Biol. anim. du P.C.B.

* JOST, A. D. Prof.

JACQUOT, R. Asst

Paris Ve, 12 Rue Cuvier, Univ. de
Paris, Fac. des Sci., Lab. de Biol.

anim. (P.C.B. section II)

GALLIEN, L. Prof.,

Dir. du serv.

HOUILLON, Ch. Asst

DUPRÉ—MUGARD, Mrs H.

Asste

BEETSCHEN, J. Cl. Asst

(no data on Nov. 1st, 1953)

Paris Ve, 26 Rue d'Ulm,

Inst. du Radium,

Lab. d'Embryol. du Lab. Pasteur

RAYNAUD, A. Chef du Lab.

(no data over some years)

Paris VIe, 15 Rue Ecole de Méd.,

Fac. de Méd., Lab. d'Embryol.

* GIROUD, A. Prof., Dir.

† DESCLAUX, P. Prof. agr.

* LEFÈBVRES—BOISSELOT,

Mrs J.

* LELIÈVRE, A. Anc. Chef de
Trav.

- * TEYSSEYRE, Miss J.
- * MORLON, Miss C.
- * LEVY, Mrs C.
- Paris VIe, 43 Rue des St Peres,
Fac. de Méd. Nouvelle,
Lab. des Travaux Anat.
- * DELMAS, A. Prof. Agr., Dir.
- * EYRIES, Ch.
- * BISS, R.
- * BISS—BEZINE, Mrs M.
- * QUÉNU, L.
- Paris VIe, 105 Boulevard Raspail,
Fac. des Sci. de Paris, Lab. d'évo-
lution des êtres organisés
- GRASSÉ, P. P. Dir.
- * MIALHE, P. Asst
- * GONTCHAROFF, Miss M.
- * LECAMP, P.
- Paris XIIIe, 111 Rue L. M. Nord-
mann, Univ. de Paris, Hôpital Bro-
ca, Ecole Prat. des Hautes Etudes,
Lab. d'Hormonol. et Cytol. expér.
- * MORICARD, R. Dir.
- * GATHIÉ, Miss M. M. C. S.
- * BAIOCCHI, O.
- Poitiers, Vienne, Fac. des Sci.,
Lab. de Zool.
- * LARAMBERGUE, M. de Prof.
- * LEGRAND, J.-J. Prof.
- * MICHON, J. Chef de Trav.
- * VOY, A. Asst
- Strasbourg, 1 Place de l'Hôpital,
Fac. de Méd., Inst. d'Embryol.
- * VINTEMBERGER, P. Prof.,
Dir.
- * CLAVERT, J. Maître de
Confér.
- * ASSENMACHER, J. Asst
- * ZAHND, J. P. Asst
- Strasbourg, 12 Rue de l'Université,
Fac. des Sci., Inst. de Zool. et de
Biol. Gén., Lab. de Zool; et Lab.
d'Embryol. et Tératol. expér. du
C.N.R.S.
- * WOLFF, Et. C. Prof., Dir.
- * STEPHAN—DUBOIS, Mrs Fr.
Chef de Trav.
- * STEPHAN, Fr. Chef de Trav.
- * SALZGEBER, Miss B.
Attach. de Rech.

- * LUTZ—OSTERTAG, Mrs Y.
Attach. de Rech.
- * SCHEIB—PFLEGER, Mrs D.
Attach. de Rech.
- * WEY—SCHUÉ, Mrs M.
Attach. de Rech.
- * HAFFEN, Miss K.
Attach. de Rech.
- * WOLFF, Mrs Em. Cherch.
libre
- * LENDER, Th. Cherch. libre
- * STRUDEL, G. Cherch. libre
- * REINBOLD, R. Cherch. libre
- * HAMPÉ, A. Cherch. libre
- * SENDEL, Ph. J. Asst
- * KIENY, Miss M. A. Stag. de
Rech.
- * HUBER, W.
Lab. de Biol. Génér.
- * BOUNOURE, L. Prof., Dir.
- * SIGOT, A. Chef de Trav.
- * AUBRY, Miss R. Stag. de Rech.
- Talence (Gironde), 40 Rue Lamar-
tine, Fac. des Sci. de l'Univ. de Bor-
deaux, Lab. de Zool. et Physiol.
anim.
- AVEL, M. Prof., Dir.
- * CAMBAR, R. Maître de
Confér. de Biol. Génér.
- * HAGET, A. Chef de Trav.
de Zool.
- * WILLIAUME, R.
Toulouse, Ecole Nat. Vétér.
- * BENOIT, J. A. A.
Ville d'Avray (Seine & Oise),
29 Rue Pradier
- * ROSTAND, J.

GERMANY

- Frankfurt Main Süd, Ludwig Rehn-
str. 14, Med. Fak. der Univ. Frank-
furt/Main,
Dr Senckenbergisches Anat. Inst.
- * STARCK, D. Prof., Dir.
ORTMANN, R. Prof.
- * FRICK, H. Asst
- * SCHNEIDER, R. Asst
- Freiburg, i. Brsq., Katharinenstr. 20,
Naturwiss. Mathem. Fak.,
Zool. Inst. der Univ. Freiburg
- KOEHLER, O. Prof., Dir.

- * LÜDTKE, H. Wiss. Asst
- * SCHNETTER, M. Wiss. Asst
- * STÄRK, O. J. Wiss. Asst
- * DREISCHER, Mis H.
- * LEIBBRANDT, Miss M.
- * LOECHER, Miss E.
- * BUTZ, P.
- * HERMANN, G.
- * HAAS, G.

Göttingen, Burgstr. 51, Med. Fak.,

Anat. Inst. der Univ. Göttingen

- * BLECHSCHMIDT, E. Prof.,
Dir.

- * GRAUMANN, W. Asst

Göttingen, Bahnhofstr. 28,

Mathem. Naturwiss. Fak.,

Zool. Inst. der Univ. Göttingen

- * HENKE, K. Prof., Dir.

- * PIEPHO, H. Ob. Asst

- * ULRICH, H. Wiss. Asst

Hamburg 20, Schottmüllerstr. 1,

Med. Fak.,

Anat. Inst. der Univ. Hamburg

ZEIGER, K. Dir.

- * BAUTZMANN, H. 1 Prosektor

Hamburg 36, Holstenwall 24,

Inst. für Fischereibiologie der Univ.

Hamburg

- * HARDER, W.

Heidelberg, Vossstr. 3,

Inst. für exp. Krebsforsch. der

Univ. Heidelberg

- * WRBA, H.

- * QUERNER, H.

Heiligenberg (17b), Kreis Ueberlin-

gen/Bodensee, Heiligenberg Inst.

- * MANGOLD, O. Prof.,

Abt. leiter

WOELLWARTH, C. von Asst

WAECHTER, Miss H. Asst

Köln-Lindenthal, Kerpernerstr. 13,

Zool. Inst. der Univ.

- * KUHN, O. Prof., Dir.

- * HARTWIG, H. Asst Dozent

- * ENGLÄNDER, H. Asst

- * ANTON, H.-J. Asst

- * VAHS, W. Asst

- * JOHNEN, Miss A. G. Asst

- * KOECKE, H. U. Asst

Marburg/Lahn, Robert Kochstr. 6,

Anat. Inst. der Univ.

- * NIESSING, K. Prof.,

Comm. Dir.

- * ROLLHÄUSER, H. Asst

(Dozent)

- * WENDT, G. G. Asst (Dozent)

- * OKSCHE, A. A. Asst

- * ROLLHÄUSER—ter HORST,

Mrs J. Guestworker

- * BOSQUE, P. G. Prof.

Marburg/Lahn,

Zool. Inst. der Univ.

LUTHER, W. Prof., Dir.

(no data over some years)

Mariensee (20a), Kreis Neustadt

am Rübenberge, Max-Planck-Inst.

für Tierzucht und Tierernährung.

Abt. für Entw. physiol.

- * SEIDEL, F. Prof., Abt.-leiter

Münster, Westf., Rob. Kochstr. 31,

Zool. Inst. der Westf. Landes-Univ.

RENSCH, B. Prof., Dir.

HARDE Asst

(no data over some years)

Stuttgart-Hohenheim, Zool. Inst.

der Landwirtschaftl. Hochschule

- * PFLUGFELDER, O. Prof., Dir.

Tübingen, Württemberg, Spemann-

str. 34, Max-Planck-Inst. für Biol.

- * KÜHN, A. Prof., Dir.

- * SCHWARTZ, V.

- * LEHN, H.

ANDRES, G.

Wilhelmshaven, Max-Planck-Inst.

STICH, H.

(no data on Nov. 1st, 1953)

Würzburg, Röntgenring 10, Univ.

Würzburg, Naturwiss. Fak.,

Zool. Inst.

- * HUBL, H. Asst

Inst. für Angew. Zool.

- * GÖSZWALD, K. Prof.,

Inst. Vorstand

- * KLOFT, W. Asst

- * BIER, K. Asst

ITALY

Bologna (103), Via Belmeloro 8,

Fac. di Sci.,

Ist. di Anat. comp.

- * PASQUINI, P. Prof., Dir.

- * RAUNICH, L. Asst

- * MANELLI, E. Asst
- * ROSSINI, Miss M. C. Techn.
- * DE CESARE, Miss I. Asst
- * MANARESI, Miss A. Guest

Asst

CENACCHI, Miss M.

Guest Asst

Lab. di Istol. ed Embriol.

LEGHISSA, S.

Fac. di Med.,

Ist. di Istol. e Fisiol. gen.

OLIVO, O. M. Prof., Dir.

RONDININI, R. Aiuto

RIZZOLI, C. Asst

(no data over some years)

Catania (208), Via Androne 25.

Ist. di Zool. e Anat. comp. dell'Univ.

MONTEROSSO, P. Prof. ord.,
Dir.

PATANE', L. Aiuto

(no data over some years)

Genova, Univ. di Genova,

Ist. di Anat. e Fisiol. comp.

* REMOTTI, E. Prof., Dir.

Milano, Via Celoria 10, Univ. di

Milano, Fac. di Sci.,

Ist. di Genet.

* BARIGOZZI, C. Prof., Dir.

* CASTIGLIONI, Miss M. C.

Asst

Ist. di Zool. e Anat. comp.

* RANZI, S. Prof., Dir.

* ORLANDI, Miss A. Asst

* CIGADA, Miss M. Asst

* LANZAVECCHIA, G. Asst

* LEONE, V. Asst

* AROSIO, G. Asst

* CITTERIO, P.

Milano, Via Mangiagalli 31, Fac. di

Med. e Chir. dell'Univ. di Milano.

Ist. di Anat. umana norm.

BRUNI, A. C. Dir.

* PRETO PARVIS, Mrs V. Asst

Prof. Inc. Histol. and Gen. Embr.

* RONCORONI, G. Asst

Modena, Via Università 4, Fac. di

Sci., Ist. di Zool. e Anat. comp.

* VANNINI, E. Prof., Dir.

BALLI, A. Chief Asst

* RANZOLI, F. Asst

* BELLANCA, Miss A. Asst

Napoli, Zoological Station

DOHRN, R. Dir.

Zoology

BACCI, G. Prof.

BATTAGLIA, B.

TOSI, Miss L.

(no data on Nov. 1st, 1953)

Physiol. & Biochemistry

BOERI, E. Prof.

GHIRETTI, F.

DOHRN, P.

MONTEFOSCHI, Miss S.

(no data on Nov. 1st, 1953)

Centro di St. Biol. del C.N.R.

* DE NICOLA, Miss M.

Padova, Via Loredan 6, Fac. di

Sci., Ist. di Zool. e Anat. comp.

* D'ANCONA, U. Prof., Dir.

* COLOMBO, G. Asst

* SABBADIN, A. Asst

MARCUIZZI, G. Lect.

* BATTAGLIA, B. Asst

* SALA, M. Asst

Palermo, Via Archirafi 18, Univ. di

Palermo,

Ist. di Zool.

* REVERBERI, G. Prof., Dir.

* MINGANTI, A. Asst

* ORTOLANI, Miss G. Asst

Guest-workers:

* FARINELLA—FERRUZZA,

Mrs. N.

* MANCUSO, V.

* MALTESE, Miss C.

* DURANTE, Miss M.

* ATTARDO, Miss C.

* CARRANO, Miss F.

* PALAZZO, Miss F.

* POLLICITA, Miss M.

Ist. di Anat. comp.

* MONROY, A. Prof., Dir.

GIARDINA, G. Asst

MAGGIO, R. Asst

Parma, Ist. di Zool. dell'Univ.

SCHREIBER, B. Dir.

Perugia, S. Pietro, Fac. di Med.,

Ist. di Biol. gen.

* SPIRITO, A. Prof., Dir.

* PITOTTI, Mrs

M. CASTIGLI — Aiuto

- * BONDI, C. Asst
- * CENTAMORI, M. Asst
- * NICOLETTI, B. Ass. ff.

Pisa, Via A. Volta, 4, Fac. di Sci.,
Ist. di Zool. e Anat. comp. dell'
Univ.

- * BENAZZI, M. Prof., Dir.
- * LEPORI, N. G. Asst
- * PAPI, F. Asst
- * BENAZZI—LENTATI, Mrs G.
- * AXIANAS, L. Asst
- * PIERAGNOLI, U. Asst

Roma, Via A. Borelli 50, Fac. di
Sci. dell' Univ. di Roma,
Ist. di Anat. comp.

- * COTRONEI, G. Prof., Dir.
- * PERRI, T. Prof., Asst
- * URBANI, E. Prof., Asst
- * URBANI—MISTRUZZI,
Mrs L. Asst

Lab. di Istol. ed Embriol.

- * STEFANELLI, A. Prof., Dir.
- * BAFFONI, G. M. Asst

Siena, Piazza S. Agostino 4, Fac.
di Med., Ist. di Biol. e Zool. gen.

PADOA, E. Prof., Dir.

OMODEO, P. Asst

(no data on Nov. 1st, 1953)

Torino, Corso Massimo d'Azeglio
52, Fac. of Med., Inst. of human
Anat.

LORETI, F. Prof., Dir.

- * LEVI, G. L. Prof. (Emer.),
Anc. Dir.
- * AMPRINO, R. M. Aiuto
(Lib. Doc.)

- * FILOGAMO, G. Aiuto
(Lib. Doc.)

FRANCESCHINI, M. Asst

- * VIGLIANI, F. Asst Inc.

Torino, Via Giovanni Giolitti 34,
Inst. of Comp. Anat.

CORTI, A. Dir.

- * GUARDABASSI, Miss A. Asst
- SACERDOTE, Miss M.
Coadiutr. tecn.

Torino, Ist. di Anat. veterinaria

- * GODINA, G. Prof., Dir.

NETHERLANDS (Holland)

Amsterdam Z., Rapenburgerstr. 128,
Free Calvinistic Univ., Zool. Inst.

- * LEVER, J. Prof.
- VLIJM, L. Asst.
- SPRONK, N. Asst

Amsterdam Z., Pr. Hendriklaan 27,
Free Calvinistic Univ.,
Anat.-Embryol. Lab.

- * LANGMAN, J. Lect., Dir.

- * DOKTER, H. J. Asst

- * FAASSEN, F. van Asst

- VISSER, H. Asst

- * NIEUWENHUIS, R. 2nd Asst

Amsterdam O., Mauritskade 61,
Municipal Univ. of Amsterdam,
Fac. of Med., Anat.-Embryol. Inst.

- * WOERDEMAN, M. W. Prof.,
Dir.

- * TRAMPUSCH, H. A. L. Chief
Asst, Lect.

- * CATE, G. ten Chief Asst

- * ZUIDWEG, M. H. J.

- * BON, W. F.

Amsterdam, Plantage Doklaan 44,
Municipal Univ. of Amsterdam,
Zool. Lab.

- * SLIJPER, E. J. Prof., Dir.

Amsterdam, Herseninstituut

BOK, S. T. Prof.

Delft, Mijnbouwstraat 16a,
Vezel Inst. T.N.O.

- * ISINGS, J.

Groningen, Oostersingel 69, Univ.
of Groningen, Fac. of Med.,
Dept of Anat. and Embryol.

- * ARIËNS KAPPERS, J. Prof.

Dir.

- * BIJTEL, Miss J. H. Lect.

- * MOLL, J. Prosector

- * LANGEVOORT, H. L. Chief
Asst

- * PROP, N. Asst

- * DUYKER-DE BEER, Mrs A. S.
Asst

BLOKZIJL, E. J. Asst

Haren (Gron.), Rijksstraatweg 78,
Zool. Lab. of the Univ. of
Groningen

- BAERENDS, G. P. Dir.

BAERENDS—van ROON,

Mrs J. M.

(no embryol. work in progress)

Leiden, Wassenaarseweg, Boerhaavekwartier, Univ. of Leyden, Fac. of Med., Anat.-Embryol. Lab.

* DANKMEIJER, J. Prof., Dir.
ELSHOUT, Miss A. M.

Prosector

* MAN, J. C. H. de Prosector
* WEL, W. H. v. d. Oud Asst
* DEKKER, Miss A. Asst
HEYN, C. B. Oud Asst
* SNELLEN, H. A.

Lab. for Exper. Histol.

* GAILLARD, P. J. Prof., Dir.
* ZAAIJER, Miss J. J. P.

Conservator

* HOGEWONING, C. H. Asst
* OORT, J. Asst

Utrecht, Biltstr. 172, State Univ. of Utrecht, Vet. Fac., Vet.-Anat. Inst.

MEIJLING, H. A. Prof., Dir.
HOESSELS, Miss E. L. M. J.

Asst

(no data over some years)

Utrecht, Janskerkhof 2, Hubrecht Lab., Internat. Embryol. Inst.

* NIEUWKOOP, P. D. Dir.
* FABER, J. Asst
BOTERENBROOD, Miss E. C.
Asst

* PARIS, Miss A. J. temp. Asst
* EGMOND, Miss M. T. C. van,
temp. Asst

Guest-workers:

EYAL—GILADI, Mrs H.

(Jerusalem)

* McMURRAY, Miss V.
(Iowa City)

* DOKTER, H. J. (Amsterdam)
Guest-workers, students:

* MIJSBERG, Miss M.
* FREMERY, Miss R. de
* NIGTEVECHT, G. van
* SANDE, Miss A. van der

Utrecht, Janskerkhof 3, State Univ. of Utrecht, Fac. of Sci., Zool. Lab.

* RAVEN, Chr. P. Prof., Dir.

BRETSCHNEIDER, L. H.

Lect.

* KAMER, J. C. v. d. Chief Asst

BEZEM, J. J. Asst

* ELBERS, P. F. Asst

* GEILENKIRCHEN, W. L. M.
Asst

* NIJENHUIS, E. D. Res. Asst
Guest-workers, students:

* BEENAKKERS, A. M. T.

* CREUTZBERG, F.

* DINGER, Miss C.

* DONGEN, W. J. van

* DORP van VLIET, N. O. van

* ERKEL, G. A. van

* GROOT, B. de

* HEYNINGEN, Miss H. E. van

* JANSSEN, C. R.

* KESSLER, Miss H. F.

* MES, Miss A. B. M.

* MILTENBURG, J.

* MOOY, Miss H. W.

* ROON, A. C. de

* STADHOUDERS, A. M.

Utrecht, Janskerkhof 3, State Univ. of Utrecht, Med. Fac.,

Anat.-Embryol. Lab.

MIJSBERG, W. A. Prof., Dir.

HUIZINGA, J. Chief Asst

* EDGAR, G. W. F. Chief Asst

* BROERS, C. J. Asst

LAARMAN, J. Asst

* LIMBORGH, J. van Asst

Utrecht, Stationsstr. 9, State Univ. of Utrecht, Genet. Inst.

RÜMKE, C. L. Prof., Dir.

* SOBELS, F. H. Conservator

NORWAY

Oslo, Univ. of Oslo, Anat. Inst.

* JANSEN, J. Dir.

* HARKMARK, W. Prosector

Oslo, Blindern, Univ. of Oslo, Dept of Zool.

* RUUD, Miss G.

N. WALES

(Vid. UNITED KINGDOM)

POLAND (Polska)

Gdańsk, Med. Acad.,

Inst. of Histol. and Embryol.

HILLER, S. Dir.

GODLEWSKI, H. Assoc. Asst
(no data over some years)

Kraków, św. Anny 6, Zakład Anat.

Porównawczej U.J. im H. Hoyer

* GRODZIŃSKI, Z. Prof.,
Head of Inst.

* MARCHLEWSKI, J. Asst

* BYCZKOWSKA, W.

Kraków, St Anne 6, Jagellonian

Univ., Fac. of Sci., Zool. Dept

SMRECZYŃSKI, S. Head of
Dept

CZAPIK, Miss A. Asst

WĘGLARSKA, Miss B. Asst

ZACWILICHOWSKA, Miss K.
Asst

(no data on Nov. 1st, 1953)

Łódź, Narutowicza 60, Acad. of
Med., Inst. of Histol. & Embryol.

* BAGIŃSKI, S. Prof., Dir.

LEWIŃSKA, H. Lect.

HAJDUKIEWICZ, J. Lect.

* MICKIEWICZ, Miss Z.

* RÓŻEWSKA, Miss J. W.

* RUDEWICZ, Mrs Cz.

Łódź, Nowotki 137, Med. Acad. of

Łódź, Fac. of Med., Dept of Endo-
crinol.

BER, A. Prof., Dir.

(no embryol. work in progress)

Poznań, ul. Ściecickiego 6, Fac. de

Méd. de l'Acad. de Méd. à Poznań.

Inst. d'Histol. et d'Embryol.

KURKIEWICZ, T. Prof., Dir.

MIETKIEWSKI, C. Docent

(no data over some years)

Poznań, Polna 33,

Klinika Ginekologiczna Poznań

HOWORKA, E.

(no data over some years)

Szczecin, The Acad. of Med.

SŁOTWIŃSKI, J. Prof.

(no data over some years)

Toruń, Sienkiewicza 30, Univ. M.

Kopernika, Zakład Anat. Porów-
nawczej i Embriol.

SZARSKI, H. Dir.

STRAWIŃSKI, S. Asst

(no data over some years)

Warszawa, ul. Chałubińskiego 5,

Acad. of Med.,

Inst. of Histol. and Embryol.

* ZWEIBAUM, J. Prof., Dir.

KRAIŃSKA, Mrs M. K.

KONOPACKA, Mrs B.

Wrocław, ul. Chałubińskiego 6a,

Aad. Medycznej,

Zakład Histol. i Embryol.

SEMBRATOWA, Mrs Z.

Prof., Dir.

(no data over some years)

Wrocław, ul. Sienkiewicza 21, Inst.

Zool. Univ. B.B. we Wrocławiu,

Zakład Anat. Porównawczej

* SZARSKI, K. W. Dir.

* ORSKA, Miss J. Adj. (Asst
Lect.)

* WINOWSKA, Mrs J. Sr Asst

* ROMANKOWA, Mrs A. Asst

Zakład Zool. Ogólnej

SEMBRAT, K. Prof., Dir.

RADECKA, Mrs E. Asst

PASCHMA, M. Asst

STRUCHLY, Z. Adj.

(no data over some years)

PORTUGAL

Lisboa, Fac. de Med.,

Inst. de Histol. e Embriol.

CELESTINO DA COSTA, A.

Prof., Dir.

(no data over some years)

Lisboa, Univ. de Lisboa, Museu e

Lab. Zool. d. Fac. d. Ciencias

FONSECA SACARRÃO, G. da

(no embryol. work in progress)

SCOTLAND

(Vid. UNITED KINGDOM)

SPAIN

Cadiz, Fac. de Med.,

Lab. de Anat. y Embriol.

* ORTS LLORCA, F. Prof., Dir.

Madrid, Instituto Cajal

DE CASTRO, F. Prof.

SWEDEN

Gothenburg, Med. Fac.,

Inst. of Anat.

BERGQUIST, H.

Lund, Biskopsgatan 7,

Tornblad Inst. of comp. Embryol.

GLIMSTEDT, G. Prof., Dir.

KALLÉN, B. Docent and
Amanuensis
HAKANSSON, R. Amanuensis
Guest-workers:
BENGMARK, S.
HALL, P.
HUGOSSON, R.
KRABBE, K. H.
LINDSKOG, B.
WEDIN, B.
(no data on Nov. 1st, 1953)
Lund, Zool. Inst. of the Univ. of
Lund, Embryol. Dept
GISLÉN, T. R. E. Prof.
* WEDIN, B. Docent
* WINGSTRAND, K. G. Docent
* DIDING, S.
* ÅKESSON, B.
Stockholm, 116 Drottninggatan,
Univ. of Stockholm, Zootom. Inst.
* HOLMGREN, N. F. Prof.
(Emer.), Anc. Dir.
* PEHRSON, G. T. Prof., Dir.
* SILÉN, L. K. P. Prosector
* JOHNELS, A. G. Docent
* OLSSON, R. Asst
* HYLBOB, J. R. Aman.
* GUSTAFSSON, G. S.
* KINDAHL, Miss M. E.
Guest-worker
Stockholm, 16 Norrtullsgatan, Fac.
of Sci. and Mathem.,
Wenner-Grens Inst. of exper. Biol.
RUNNSTRÖM, J. A. M.
Prof., Dir.
LINDBERG, N. O. H.
Assoc. Prof.
BOREI, H. Assoc. Prof.
KRISZAT, G.
PERLMANN, H. P. Asst
BÄCKSTRÖM, S. Asst
GUSTAFSON, T. Asst
HULTIN, J. M. T. Asst
HAGSTRÖM, B.
IMMERS, J. Asst
VASSEUR, E. J. E. Asst
WICKLUND, Miss E. Asst
* KAVANAU, J. L.
Stockholm 50, Statens veter. med.
anstalt, Dept of Parasitol.

* MONNÉ, L. M. W. A.
Laborator (Assoc. Prof.)
Stockholm 60, Solnavägen 1, Karo-
linska Inst.,
Histol. Inst., Embryol. Dept
* HAGGQVIST, G. Prof., Dir.
* GYLLENSTEN, L. J. W. Asst
* FRIBERG, U.
RINGERTZ, N.
Uppsala, Univ. Uppsala,
Anat. Inst.
* HOLMDAHL, D. E. Prof., Dir.
Zool. Inst.
* HÖRSTADIUS, S. Prof., Dir.
* JÄGERSTEN, K. G. M. Prof.
* HOLM, K. Å. Docent (Curator
of the Museum)
* NYHOLM, K. G. Docent
Uppsala, Uppsala Univ.,
Inst. for Zoophysiol.
* LINDAHL, P. E. Prof., Dir.
* SWEDMARK, B. G.
* KIESSLING, K.-H.
* KIHLESTRÖM, J.-E.
* SUNDELL, Mrs G.
* NILSSON, Miss A. E. A.
* SUNDELL, L.-E.

SWITZERLAND

Basel, Rheinsprung 9,
Zool. Anstalt der Univ.
PORTMANN, A. Prof., Dir.
* GEIGY-HEESE, R. Prof.
* NÜESCH, H.
* LÜSCHER, M.
Basel, Socinstr. 57, Tropeninstit.
* GEIGY-HEESE, R. Prof., Dir.
Bern, Bühlstr. 26, Med. Fak., Univ.
Bern, Anat. Inst.
* HINTZSCHE, E. Prof., Dir.
BLUNTSCHLI, H. Prof.
(Emer.), Kust.
* STRAUSS, F. Pros.
Bern, Sahlstr. 8, Philosoph. Fak.,
Zool. Inst. der Univ. Bern
* BALTZER, F. Prof., Dir.
* ROSIN, S. Asst
* TSCHUMI, P. A. Asst
* NEF, W.
* HENZEN, W.

- * EYMANN, H.
Abt. für Zoophysiol.
- * LEHMANN, F. E. Prof., Dir.
- * WEBER, R. Asst
- * BRETSCHER, A.
- * TARDENT, P.
- * TSCHUMI, P. A.

Bern, Waldau, Med. Fak.,
Hirnanat. Inst. der psychiatr.
Univ.-klinik

- * GRÜNTAL, E. Dir.
 - * FEREMUTSCH, K. Asst
 - * HEIMANN, H. Asst
- Fribourg, Inst. de Zool.
KÄLIN, J. Prof.

Genève, Rue de Candolle, Univ. de
Genève,

- Inst. de Zool. et Anat. comp.
GYÉNOT, E. Dir.
PONSE, Miss K.
(no data over some years)

Genève, 20 Rue Ecole de Méd.,
Inst. d'Anat.

- * BAUMANN, J. A. Prof., Dir.
- WEBER, A. Dir. du Lab. de
Neurohistol.
- * NEIGER, M. 1er Asst
- * BAUD, C. A. Chef de Trav.
- * GALLERA, J. (Lausanne)
Guest-worker

Lausanne, Fac. de Méd.,
Inst. d'Histol. et d'Embryol.

- * GALLERA, J.
- Zürich 6, Künstlergasse 16, Univ.
Zürich, Naturwiss. Fak.,
Zool.-vergl. Anat. Inst.
HADORN, E. Prof., Dir.
STEINER, H. Prof.
GLOOR, H. Instr.
ANDERS, G.
BUCHER, N.
KOCHER, W.
(no data over some years)

Zürich 7, Gloriastr. 19, Univ.
Zürich, Med. Fak., Anat. Inst.

- * TÖNDURY, G. Prof., Dir.
- * THEILER, K. Asst
- * SCHENK, R. Asst

UNITED KINGDOM (U.K.) England

Ashford, Kent, Univ. of London,
Wye Coll.
* FROUD, M. D.

Birmingham 15, Edgbaston, Bir-
mingham Univ., The Med. School,
Dept. of Anat.

- ZUCKERMAN, S. Prof., Dir.
- BRANDT, W. Lect.
- GREEN, S. H. Lect.
- MANDL, Miss A. M. Asst
- EAYRS, J. T.
(no data on Nov. 1st, 1953)

Bristol, Univ. of Bristol,
Dept of Zool.

- * HARRIS, J. E. Prof.
 - * WHITING, H. P.
- Cambridge, Univ. of Cambridge,
Anat. School

- * BOYD, J. D. Prof., Dir.
- HUGHES, A.
- * BELLAIRS—MORGAN,
Mrs R. M.

BELLAIRS, A. d'A.
BULL, M. M.
SHUTE, C.
LEVER, J. D.
BULMER, D.

Cambridge, Downing St,
Dept of Zool.

- GRAY, J. Prof.
- * GOODHART, C. B.
- * SMITH, S.

Cambridge, Gonville and Cains
Coll.

NEEDHAM, J.
(no data received)

Cambridge, Strangeways
Res. Lab.

FELL, Miss H.
CHEN, J. M.
RINALDINI, L. M.

Liverpool, Univ. of Liverpool,
Dept of Anat.

- * HARRISON, R. G. Prof.
- * MACMILLAN, E. W.
- * CLEGG, E. J.

- * REILLY, T. D.
London E. 1, Mile End Road,
Queen Mary Coll.,
Dept of Zool.
SMITH, J. E. Prof.
NEWELL, G. E. Reader
FORREST, J. E. Lect.
CHAPMAN, G. Lect.
CARTHY, J. D. Lect.
(no embryol. work in progress)
London E. 1, Turner St, Univ. of
London, London Hosp. Med. Coll.,
Anat. Dept
* HARRISON, R. J. Head of
Dept
SOUTHWOOD, W. F. W. Lect.
YULE, T. H. B. Lect.
London S.E. 1, Guy's Hosp.,
Med. School, Dept. of Biol.
* BAXTER, E. W.
London S.E. 1, St Thomas's Hosp.,
Med. School, Dept of Anat.
DAVIES, D.V. Prof.
London W. 1, Middlesex Hosp.,
Med. School
WOODGER, J. H. Prof., Dir.
(no embryol. work in progress)
Biol. Dept
* GOULD, R. P.
London W. 2, Norfolk Place,
Paddington, St Mary's Hosp.,
Med. School
FISK, A.
(no data over some years)
London N.W. 1, Regent's Park,
Bedford Coll., Dept of Zool.
INCE, Miss F. E.
(no data on Nov. 1st, 1953)
London S.W. 1, Horsferry Rd,
Westminster Med. School
* O'CONNOR, R. J.
London W.C. 1, Gower St, Univ.
Coll. London,
Dept of Embryol.
* HILL, J. P. Prof. (Emer.)
* ABERCROMBIE, M. Reader
* DEUCHAR, Miss E. M. Asst
Lect.
* CARR, Miss E. B.
* HEAYSMAN, Miss J. E. M.
- * SANTLER, Miss J. E.
* AHSAN-UL-ISLAM
* NEW, D. A. T.
Dept of Genet.
GRÜNEBERG, H. Reader
* TRUSLOVE, Miss G. M.
Dept of Zool. and Comp. Anat.
* MEDAWAR, P. B. Jodrell
Prof., Dir.
* NEWTH, D. R. Lect.
* BILLINGHAM, R. E. Hon.
Res. Asst
FOX, H. Hon. Res. Asst
London W.C. 1, 8 Hunter St,
Brunswick Square, The Roy. Free
Hosp. School of Med.
* THOMASON, Miss D.
London W.C. 2, 62-65 Chandos
Place, Univ. of London, Charing
Cross Hosp., Med. School,
Dept of Anat.
* HAMILTON, W. J. Prof., Dir.
* GLENISTER, T. W. Lect.
* ROSS, J. R. W.
London W.C. 2, Strand,
King's Coll.
* MANTON, S. M.
* TRIBE, Miss M.
Med. Res. Council, Biophysics Res.
Unit
RANDALL, J. J. Hon. Dir.
HANSON, Miss E. J. Member
M.R.C. staff
(no data over some years)
Dept of Zool.
ALLANSON, Miss M.
(no data on Nov. 1st, 1953)
Oxford, The Univ. Museum,
Dept of Zool. and comp. Anat.
* NEEDHAM, A. E.
FISCHBERG, M. Wilfred
Jenkinson Mem. Lect.
Reading, Berkshire,
Univ. Dept of Zool.
* EALES, Miss N. B.
Sheffield, Univ. of Sheffield, Fac.
of Med., Dept of Anat.
* DAVIES, F. Prof.
* HAINES, R. W. Sr Lect.
* KING, T. S. Lect.
* JOHNSON, F. R. Lect.

- * McMINN, R. M. H. Lect
Dept of Zool.
- * EASTHAM, L. E. S. Prof.
- * FRANCIS, E. T. B. Sr Lect.
- * HIGHNAM, K. C.

N. Wales

Bangor, Caernarvonshire, Univ.
Coll. of N. Wales,
Dept of Zool.

- * BRAMBELL, F. W. R. Prof.,
Dir.
- * HEMMINGS, W. A. Res.
- * BURDON-JONES, C. Lect.
- * HALLIDAY, R. Res.
Marine Biol. Stat.
- * CRISP, D. J. Dir.
- * KNIGHT-JONES, E. W.

Scotland

Edinburgh 9, West Mains Rd,
King's Buildings,
Inst. of Anim. Genet. & Univ.
Dept of Genet.

- * WADDINGTON, C. H. Prof.,
Dir.
- a) Univ. Dept
- * BEATTY, R. A. Pri. Sc.
Officer (A.R.C. Staff)
- * CLAYTON, Mrs R. M. Lect.
- * COUNCE, Miss S. J. Ph. D.
student
- * DAINTY, J. (Biophysics Unit)
- * EDE, D. A. Ph. D. student
- * EDWARDS, R. G. Ph. D.
student
- * FELDMAN, M. (Jerusalem)
- * LUCEY, E. C. A.
(Cinematography)

- * PANTELOURIS, E. M.
Ph. D. student
- * SELMAN, G. G. Asst Lect.
- * EL SHATOURY, H.
Ph. D. student

- * YATES, Miss H.B.
SIRLIN, J. L.

b) Med. Res. Council

- * CARTER, T. C. M.R.C. Sci.
Staff
- * LYON, Miss M. F. M.R.C. Sci.
Staff

Univ. Dept of Zool., the Ashworth
Lab.

- SWANN, M. Prof., Dir.
- JONES, B. M. Lect.
- TUFT, P. H. Lect.
- * HALE, L. J. Lect.
- * KILLE, R. A. Lect.
- * WALLACE, D. R. J. Res. stud.
- * PARNELL, I. W.
RAMULT, M. Prof., Res.
worker

* SANDISON, Miss E. E.
Glasgow W. 2, The University,
Dept of Genet.

* CLEAT, N.D.
St Andrews, Fife, The Univ.,
Dept of Zool.

CALLAN, H. G. Prof.
(no data on Nov. 1st, 1953)
Gatty Marine Lab.
* DODD, J. M.

YUGOSLAVIA

Zagreb, Salata, Inst. de Biol.,
Fac. de Méd.
* SKREB, N. Asst

LIST OF SUBJECTS

with Names of Investigators

(arranged according to organ systems and systematic 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 SYSTEMATIC GROUPS AND SPECIAL ORGAN-SYSTEMS (to be used for all rubrics)

Systematical subdivision

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
- 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
 - d truncal skeleton
 - e limbs and wings
 - f joints
- 5 Muscular system**
- a general subjects
 - b skeletal muscles (head, trunk and tail)
 - c visceral muscles (head and trunk)
 - d muscles of limbs and wings
- 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 system
 - d connective tissue
- 10 Urogenital system and sex determination**
 - a general subjects
 - b/c kidney and urinary ducts
 - d/e/f gonads (ovary and testis), genital tracts and accessory glands
 - g sex determination
- 11 Endocrine glands**
 - a general subjects
 - b hypophysis
 - c thymus
 - d thyroid gland
 - e gonads
 - f adrenals
 - g pancreas

I. DESCRIPTIVE AND COMPARATIVE EMBRYOLOGY SUBDIVISION

- 1 *Theoretical problems*
- 2 *Methods and technics*
- 3 *General subjects* (asexual development, 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)
- EV Evertabrata
- 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 Limbs and wings
 3 Tail
 e Development of special organ-systems
 (Cf. general subdivision p. 124—126)
 f Histo- and cytogenesis
 8 *Growth and differentiation (Invertebrates and Vertebrates)*
 a Growth
 a/b Growth and differentiation
 b Differentiation

1 *Theoretical problems*

- Perri, T. — d
 Tschumi, P. A. — c
 Holmgren, N. F. — a, b

J
 V

2 *Methods and technics*

- Benoit, J. A. A. — a
 Corner, G. W. — d
 Ferris, W. R. — a
 Hillemann, H. H. — e
 Sauser, G. — c

3 *General subjects*

(asexual development, etc.)

- Ranzi, S. — b
 Metz, C. B. — a
 Clayton—Freedman, Mrs R. M.
 and Selman, G. G. — c
 Sauser, G. — a

P
 J
 M

4 *Initial development*

a *General subjects*

- Benazzi, M. — a C
 Lepori, N. G. — a, b C
 Papi, F. — a C
 Leghissa, S. — a H
 Ortolani, Miss G. — b H
 Dollander, A. — d J
 Nieuwkoop, P. D. — c J
 Orlandi, Miss A. — b J
 b *Primordial germ cells*
 Aubry, Miss R. — a J
 Bounoure, L. — a J
 Mangold, O. and
 Stärk, O. J. — a J
 c *Gameto-, ovo- and spermatogenesis*
 Larambergue, M. de — b B
 Benazzi—Lentati, Mrs G. — a C
 Lehmann, F. E. — c C
 Lepori, N. G. — a, b C
 Pieragnoli, U. — a C

- Colombo, G. — c D
 Kühn, A. — e D
 Elbers, P. F. — a E
 Lehmann, F. E. — c G, H
 Barthelemy, Miss A. and
 Dollander, A. — a J
 Hayashi, Y. and
 Osawa, S. — b J
 Kemp, N. E. — a J
 Hillemann, H. H. — f L
 Kropp, B. N. — a L
 Roosen-Runge, E. C. — a M
- d Maturation**
- Moricard, R. — a M
- e Ovulation and oviposition**
- Strauss, F. — a M
- f Activation and fertilization**
- Benazzi, M. — a C
 Benazzi—Lentati, Mrs G. — a C
 Elbers, P. F. — a E
 Endo, Y. — b G
 Austin, C. R. and
 Braden, A. W. H. — a, c M
 Moricard, R. — b M
- g Parthenogenesis**
- 5 Cleavage and mitosis*
- a Cleavage**
- Kühn, A. — d B
 Bier, K. — a D
 Dan, K. — b G
 Castigli Pitotti, Mrs M. — a I
 Colombo, G. — a J
 Adams, Miss E. C.;
 Hertig, A. T.; Rock, J.
 and Mulligan, W. J. — a M
 Austin, C. R. and
 Braden, A. W. H. — a M
- b Mitosis**
- Overton, Mrs J. — a
 Weiss, P. A. — c
 Lindahl, P. E. — g G
- 6 Further development of
 Invertebrates
 (including complete and partial
 — e.g. early — development)*
- EV Evertebrata**

P Protista

- Bonner, J. T. — b
 Nyholm, K. G. — c

A Porifera**B Coelenterata**

- Kühn, A. — d
 Larambergue, M. de — a
 Leghissa, S. — b

**C Vermes and Onychophora,
Tardigrada and Linguatulida**

- Åkesson, B. — a
 Bookhout, C. G. — a, b
 Gontcharoff, Miss M. — c
 Govaert, J. — a
 Hylbom, J. R. — a
 Jägersten, K. G. M. — a
 Manton, S. M. — a
 Monné, L. — a
 Nyholm, K. G. — a
 Ranzoli, F. — b
 Seidel, F. — b

D Arthropoda

- Baffoni, G. M. — a
 Bier, K. — a, b
 Caspari, E. W. — a
 Castiglioni, Miss M. C. — a
 Cleat, N. D. — a
 Counce, Miss S. J.;
 Ede, D. A. and
 Lucey, E. C. A. — d
 Crisp, D. J. — a
 El Shatoury, H. — c
 Göszwald, K. — a
 Henke, K. mit
 Mitarbeitern — a
 Legrand, D. — d
 Legrand, J.-J. — a, b
 Loecher, Miss E. and
 Schmetter, M. — a
 Lüscher, M. — b
 Martin, Miss B. A. — a
 Newby, W. W. — a
 Poulson, D. F. — a
 Sandison, Miss E. E. — a
 Schwartz, V. — a
 Seidel, F. — b

E Mollusca

- Aubry, Miss R. — b
 Dodd, J. M. — a

F Bryozoa, Entoprocta, Brachiopoda and Hemichordata

Burdon-Jones, C. — a
 Colwin, A. L. and
 Colwin, Mrs L. H. — b
 Diding, S. — a
 Silén, L. K. P. — a

G Echinodermata

Colwin, Mrs L. H. — c
 Harvey, Mrs E. Browne — c
 Lallier, R. A. — d
 Mazia, D. — d, e
 Nyholm, K. G. — b
 Wheeler, A. J. — a

H Urochordata and Cephalochordata

Burdon-Jones, C. — a
 Butler, E. G. — c
 Sabbadin, A. — b

7 Further development of Vertebrates

(including complete and partial
 — e.g. early — development)

a General investigations*General subjects*

Battle, Miss H. I. — b I
 D'Ancona, U. — b I
 Davies, D. H. — a I
 Horn, E. C. — a I
 Jager, B. de — a I
 Smith, Miss B. T. — a I
 Ubisch, L. v. — a I
 Lucey, E. C. A. and
 Waddington, C. H. — b J
 Moore, J. A. — b J
 Prop, N. — a J
 Rostand, J. — c J
 Holmdahl, D. E. — g HV
 Adams, Miss E. C.;
 Hertig, A. T.; Rock, J. and
 Mulligan, W. J. — a M
 Blechschmidt, E. — a M
 Carr, Miss E. B.
 (Mrs Laurence) — a M
 Eales, Miss N. B. — a M
 Glenister, T. W. — c M
 Paris, Miss A. J. — a M
 Seidel, F. — a M

Complete development

Baxter, E. W. — a I
 Damas, H. F. C. — a I
 Harder, W. — b I
 Lever, J. — a I
 Cambar, R. — c J
 Faber, J. — a J
 Sedra, S. N. — a J

Partial development

Stockard, A. H. — a I
 Gubbay, Miss V. — a M
 Harrison, R. G.
 (Liverpool) — b M
 Heuser, C. H. — a M

Implantation and placentation

Alden, R. H. — a M
 Böving, B. G. — b M
 Boyd, J. D. — b M
 Corner, G. W. — c M
 Frick, H. — a M
 Gubbay, Miss V. — a M
 Hamilton, W. J. and
 Harrison, R. J. — b M
 Harvey, E. B. — a M
 Hill, J. P. — a M
 Mossmann, H. W. — a M
 Orsini, Mrs M. C. Ward — a M
 Ramsey, Miss E. M. — a M
 Sinclair, J. G. — a M
 Strauss, F. — b M
 Wislocki, G. B. — b M

b Early development, gastrulation, etc.

Lallier, R. A. — d J
 Spratt, N. T., Jr — d L
 Glenister, T. W. — b M
 Sinclair, J. G. — a M
 Skreb, N. — a M

Early development

Lutz, H. — a L
 Andrew, Miss A. — a M
 Harrison, R. J. — a M

Gastrulation and formation of germ layers

Castigli Pitotti, Mrs M. — a I
 Grabowski, C. T. — b L
 Lutz, H. — d L
 Malan, Miss M. E. — a L

<i>Development of foetal membranes</i>			
Bautzmann, H. — c	V	Williams, S. C. — b	M
Adamstone, F. B. — a	L	Zaaijer, Miss J. J. P. — b	M
Alden, R. H. — a	M	Hair, nails	
Heuser, C. H. — b	M	Chase, H. B. — b	M
Mossmann, H. W. — a	M	Isings, J. — c	M
Orsini, Mrs M. C. Ward — a	M	Snook, T. — b	M
c Neurulation, etc.		Glands	
Lallier, R. A. — d	J	Cohn, S. A. — a, b	L, M
Tribe, Miss M. — a	L	Mammæ	
<i>Neurulation (s.s.)</i>		McKerrow, Miss M. J. — a	M
Weiss, P. A. — b		Pigment cells and patterns	
<i>Development of neural crest</i>		Cordier J. — a	J
Green, Mrs E. U. — b	J	Boyd, J. D. — c	M
Raunich, L. — d	J	Chase, H. B. — b	M
Hill, J. P. — b	L	Nervous system	
Reams, W. M., Jr — a	L	General subjects	
Hill, J. P. — b	M	Leghissa, S. — c	V
<i>First larval development</i>		Harris, J. E. and	
Muchmore, W. B. — a	J	Whiting, H. P. — a	I
Pasteels, J. J. — b	J	Baffoni, G. M. — a	J
Wilens, Miss S. — b	J	Sala, M. — a	J
d Development of part of the organism		Dreyer, Miss M. V. — a	L
Head		Strudel, G. — b	L
Geigy-Heese, R. — a	I	Boyer, C. C. — a	M
Huber, W. — a	L	Central nervous system	
<i>Limbs and wings</i>		Grünthal, E. — a	L, M
Blokzijl, E. J. — a	J	Brain	
Bretscher, A. — a	L	Holmdahl, D. E. — h	V
Haines, R. W. — b	M	Manaresi, Miss A. — a	V
Vigliani, F. — a	M	Heimann, H. — a	I
Tail		Kamer, J. C. v. d. — b	I
Grodziński, Z. — b	I	Olsson, R. — a	I
Caspari, E. W. — b	M	Roon, A. C. de — b	I
e Development of special organ-systems		Ariëns Kappers, J. — a	J
Skin		Kollros, J. J. — e	J
General subjects		Penfold, R. and	
Cordier, J. — a	J	Roofe, P. — a	J
Niu, M. C. — c	J, M	Moll, J. — a	L
Wendt, G. G. — a	M	Biss, R. — c	M
Teeth		Biss, R. and	
Dankmeijer, J. — b		Eyries, Ch. — a	M
Greulich, R. C. — a	V	Delmas, A. — a	M
Hillemann, H. H. — e	M	Feremutsch, K. — a	M
Kindahl, Miss M. E. — a	M	Feremutsch, K. and	
		Strauss, F. — b	M
		Giroud, A. — a	M
		Godina, G. — a	M
		Hogue, Miss M. J. — a	M
		Jansen, J. — a, b	M
		Moll, J. — a	M
		Sinclair, J. G. — c	M

Spinal cord

Kollross, J. J. — a J
 Sensenig, E. C. — a M

*Accessory organs**Paraphysis*

Duyker-De Beer, Mrs A. S. — a I
 Duyker-De Beer, Mrs A. S. — b J
 Langevoort, H. L. — a L

Pineal body

Kamer, J. C. v. d. — a I
 Kamer, J. C. v. d. — c K
 Miltenburg, J. — a K

Hypophysis

Wingstrand, K. G. — a V
 Oort, J. — a L

Ganglia

Bosque, P. G. — a J
 Niessing, K. — a J

*Nerves**Cephalic nerves*

Penfold, R. and
 Roefe, P. — a J
 Biss, R. and
 Eyries, Ch. — a, b M
 Humphrey, Miss T. — a M

Spinal nerves

Kollros, J. J. — a J

Para- and sympathetic and intramural nervous system

Bosque, P. G. — a J
 Baumann, J. A. and
 Gallera, J. — a L
 Biss, R. — d M

Meninges

Langevoort, H. L. — b

*Special sense organs**Eye*

Bijtel, Miss J. H. — d J
 Bartelmez, G. W. — b M

Eye (s.s.)

Saxén, L. O. — a J
 Steinitz, H. — d J
 Coulombre, A. J. — a L

Ear

Bijtel, Miss J. H. — c J
 Egmond, Miss M. T. C. van — b J
 Bast, T. H. — a M
 Biss, R. and
 Eyries, Ch. — b M
 Frick, H. — c M
 Lyon, Miss M. F. — a M

Lateral sense organs

Kille, R. A. — a, b I
 Pehrson, G. T. — a I

*Skeleton**General subjects*

Greulich, R. C. — a V
 Hale, L. J. — a L
 Murray, P. D. F. — c L
 Zahnd, J. P. — a L
 Hillemann, H. H. — b, e M

Embryonic temporary endo-skeleton

Eloff, F. C. — a M
 Starck, D. — a, b M

Skull

Neiger, M. — a
 Murray, P. D. F. — a V
 Gustafson, G. S. — a I
 Johnels, A. G. — a I
 Kille, R. A. — a I
 Pehrson, G. T. — a, b I
 Barry, T. H. — a J
 Pentz, Miss K. — a J
 Westhuizen, C. M. v. d. — a J
 Engelbrecht, D. van Z. — a L
 Frank, G. H. — a L
 Broers, C. J. — a M
 Frick, H. — b, c M
 Schneider, R. — a M
 Sensenig, E. C. — c M
 Starck, D. — a, b M

Truncal skeleton

Orska, Miss J. — a I
 Sedra, S. N. — c J
 Strudel, G. — b L
 Sensenig, E. C. — a M
 Vigliani, F. — a M

Limbs and wings

Newth, D. R. — c J
 Pletzen, R. van — a J
 Lombard, G. L. — a K
 Romankowa, Mrs A. — a M

Joints

Neiger, M. — a
 Beau, A. A. — a M
 Langman, J. — d M
 Moffett, B. C., Jr — a, b M
 Moll, J. — b M
 Vigliani, F. — a M

Muscular system

Muscles of limbs and wings
 Newth, D. R. — c J

Sullivan, G. E. — a	L	Froud, M. D. — a, b	L
Vigliani, F. — a	M	Godina, G. — b	M
<i>Alimentary tract</i>		Priesching, A. — b	M
<i>General subjects</i>		Reynolds, S. R. M. — c, d	M
Balinsky, B. I. — b	J	Slijper, E. J. — a	M
Bosque, P. G. — a	J	Wel, W. H. v. d. — a	M
<i>Mouth- and pharyngeal cavities</i>		<i>Coelomic cavities and endothelia,</i>	
Toivonen, S. I. — d	J	<i>lymphatic system and connective</i>	
Tribe, Miss M. — b	J	<i>tissue</i>	
Klapper, C. E. — a	M	<i>Coelomic cavities</i>	
<i>Intestinal tract</i>		Wedin, B. — a	V
Geigy-Heese, R. — a	I	<i>Lymphatic system</i>	
Harder, W. — a	I	Bautzmann, H. — b	V
Bellairs-Morgan, Mrs M. R. — a	L	Snook, T. — a	M
Ford, P. — b	M	<i>Urogenital system and sex</i>	
Priesching, A. — a	M	<i>determination</i>	
<i>Proctodaeum</i>		<i>Kidney</i>	
Dijk, D. E. van — a	J	Szarski, K. W. — a	LV
<i>Salivary glands</i>		Cambar, R. and	
Klapper, C. E. — b	M	Williaume, M. — e	J
<i>Pancreas</i>		Ford, P. — c	L
Donaldson, J. C. — a	M	Torrey, T. W. — b	M
Humphrey, Miss T. — b	M	<i>Urinary ducts</i>	
<i>Respiratory organs</i>		Cambar, R. — b	J
<i>General subjects</i>		Cambar, R. and	
Harder, W. — c	I	Williaume, M. — e	J
<i>Internal gills</i>		<i>Gonads</i>	
Tribe, Miss M. — b	J	Axianas, L. — a	I
<i>Lungs and larynx</i>		D'Ancona, U. — a	J
Orts Llorca, F. — a	M	Bounoure, L. — a	J
Quénu, L. — a	M	Mangold, O. and	
<i>Air-bladder</i>		Stärk, O. J. — a	J
Winowska, Mrs J. — a	I	Sabbadin, A. — a	J
<i>Heart, vascular system and blood</i>		Vannini, E. — e	J
<i>General subjects</i>		Assenmacher, I. and	
Raunich, L. — a	I	Benoit, J. — a	L
<i>Heart</i>		Conaway, C. H. — a	M
Dankmeijer, J. and		Corner, G. W. — a	M
Los, J. A. — a	V	Hamilton, W. J. and	
Baud, C. A. — a	L	Harrison, R. J. — a	M
Baumann, J. A. and		<i>Genital tracts</i>	
Gallera, J. — a	L	Corner, G. W. — a	M
Davies, F. and		Dankmeijer, J. and	
Francis, E. T. B. — a	M	Dekker, Miss A. — c	M
King, T. S. — a	M	Glenister, T. W. — a	M
Latimer, H. B. — a	M	Ross, Miss J. R. W. — a	M
<i>Arterial and venous system</i>		Strauss, F. — a	M
Grodziński, Z. — b	I	Szarski, K. W. — b	M
Millard—Bokenham,		<i>Accessory glands</i>	
Mrs N. A. H. — a	J	Szarski, K. W. — b	M

Sex determination

Witschi, E. — c	J
Reinbold, R. — a	L
Wolff, Et.; Wolff, Mrs Em.;	
Lutz—Ostertag, Mrs Y.;	
Scheib—Pfleger, Mrs D.;	
Salzgeber, Miss B.;	
Hampé, A. and	
Strudel, G. — b	L
Lindahl, P. E. — f	M
Sundell, Mrs G. — a	M

Endocrine glands**General subjects**

Latimer, H. B. — b	M
--------------------	---

Hypophysis

Wingstrand, K. G. — a	V
Assenmacher, I. and	
Benoit, J. — a	L
Grignon, G. — a	L
Bartelmez, G. W. — c	M

Thyroid gland

Dankmeijer, J. — b	
Leblond, C. P. — a	V
Assenmacher, I. and	
Benoit, J. — a	L
Dossel, W. E. — a	L

Adrenals

Leroy, P. J. M. — a	L
Man, J. C. H. de — a	M

f Histo- and cytogenesis

Green, Mrs E. U. — b	J
Hirata, A. A. and	
Schechtman, A. M. — a	L
Preto Parvis, Mrs V. — b	L
Spratt, N. T., Jr — d	L
Boyd, J. D. — a	M
Hirata, A. A. and	
Schechtman, A. M. — a	M
Preto Parvis, Mrs V. — b	M

**g Growth and differentiation
(Invertebrates and Vertebrates)****a Growth**

Weiss, P. A. — b, d	
Michon, J. — a	C
Cleat, N. D. — a	D
Legrand, J.-J. — c, e	D
Voy, A. — a	D

a/b Growth and differentiation

Töndury, G. — b	
Wallace, D. R. J. — a	D
Elbers, P. F. — a	E
Lehmann, F. E. mit	
Mitarbeitern — a	J

b Differentiation

Hale, L. J. — a	L
Strudel, G. — b	L

**II. EXPERIMENTAL DEVELOPMENTAL MORPHOLOGY
SUBDIVISION****1 Theoretical problems****2 Methods and technics****3 General subjects (asexual development, 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 (complete development)****b Topogenesis**

- c Determination of primitive development
- d Development of part of the organism
- e Development of special organ systems
(Cf. general subdivision p. 124—126)
- 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 parts of the organism
 - 1 Head
 - 2 Limbs and wings
 - 3 Tail
 - e Development of special organ systems
(Cf. general subdivision p. 124—126)
 - 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</i>		Kuhn, O. — c	(5)
Perri, T. — d		Oka, H. — b	H
Yamada, T. — a	V	Lutz, H. and Lutz-Ostertag, Mrs Y. — c	I
2 <i>Methods and technics</i>		Lutz, H. — b	L
Beatty, R. A. — b		Sinclair, J. G. — b	(5)M
Cotronei, G. — a			
Harvey, Mrs E. Browne — d		4 <i>Initial development</i>	
Lucey, E. C. A. and Waddington, C. H. — b		a <i>General subjects</i>	
Williams, R. G. — a		Harvey, Mrs E. Browne — b	G
3 <i>General subjects</i> (asexual development, etc.)		Leghissa, S. — a	H
		Ortolani, Miss G. — b	H
		Baltzer, F. and Lehmann, F. E. — d	J

- Briggs, R. W. and
King, T. J. — a J
Nieuwkoop, P. D. — c J
Pantelouris, E. M. and
Waddington, C. H. — b J
Nicholas, J. S. — a, j M
Nicholas, J. S. — h (4)M

b Primordial germ cells

- Aubry, Miss R. — a J
Mangold, O. and
Stärk, O. J. — a J

c Gameto-, ovo- and spermatogenesis

- Dan, Mrs J. C. — a C
Lehmann, F. E. — c C
Vannini, E. — d C
Dreischer, Miss H. and
Schnetter, M. — a D
Dan, Mrs J. C. — a E, G
Lehmann, F. E. — c G, H
Clavert, J. — a (6)L
Gothié, Miss M. M. C. S. — c M

d Maturation

- Gothié, Miss M. M. C. S. and
Moricard, R. — f M
Moricard, R. — a, e M

e Ovulation and oviposition

- Harvey, Mrs E. Browne — d G

f Activation and fertilization

- Göszwald, K. — d D
Cleland, K. W. — b (5)E, (5)G
Moricard, R. — b M

g Parthenogenesis

- Göszwald, K. — c D
Harvey, Mrs E. Browne — a G
Fankhauser, G. — a (4)J
Shaver, J. R. — a J
Beatty, R. A. and
Selman, G. G. — a M
Edwards, R. G. — a M

5 Cleavage and mitosis

- Harvey, Mrs E. Browne — b G

a Cleavage

- Goodhart, C. B. — c EV
Cleland, K. W. — b (5)E, (5)G
Harvey, Mrs E. Browne — a (4)G

- Goodhart, C. B. — c V
Colombo, G. — b (6)J
Green, Mrs E. U. — a (5)J

b Mitosis

- Mazia, D. — c
Weiss, P. A. — c
Costello, D. P.;
Henley, Miss C. and
Kent, D. E. — a (4)C
Dan, K. — d D
Dan, K. — c G
Costello, D. P.;
Henley, Miss C. and
Kent, D. E. — a (4)J

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

- Weisz, P. B. — a, b P
Crowell, P. S. — a B
Mifune, S. — a (5)C
Nieuwkoop, P. D. — h (5)C
Parnell, I. W. — a (4)5)C
Bodenstein, D. — c (6)D
Counce, Miss S. J. and
Selman, G. G. — b (4)D
Goldschmith, E. D. — a, b (5)6)D
Goto, T. — a (5)D
Hama, T. — b (5)D
Legrand, J.-J. — b D
Loecher, Miss E. and
Schnetter, M. — a D
Nüesch, H. — a D
Dinger, Miss C.;
Dongen, W. J. van;
Groot, B. de;
Heyningen, Miss H. E. van;
Janssen, C. R. and
Raven, Chr. P. — a (5)E
Dorp van Vliet, N. O. van
— a (5)E
Erkel, G. A. van;
Roon, A. C. de and
Stadhouders, A. M. — a (4)E
Kessler, H. F. — a (5)E
Mes, Miss A. B. M. — a (5)E
Mooy, Miss H. W. — a (5)E
Nijenhuis, E. D. — a (5)E

Colwin, A. L. and Colwin, Mrs L. H. — b	F
Dan, K. — a	G
Harvey, Mrs E. Browne — a	(4)G
Harvey, Mrs E. Browne — b	G
Reverberi, G. — b	(5)H
b Topogenesis	
Kajishima, T. — a	D
Lindhahl, P. E. — a	G
Moore, A. R. — a	G
c Determination of primitive development	
Selman, G. G. — a	(4)EV
Holm, K. Å. — a	D
Loecher, Miss E. and Schnetter, M. — a	D
Selman, G. G. — a	(4)D
Clement, A. C. — a	E
Hörstadius, S. — a	G
Lallier, R. A. — d	G
Leghissa, S. — a	H
d Development of part of the organism	
Haget, A. — a	D
e Development of special organ systems	
<i>Exo-skeleton</i>	
Kühn, A. — b	D
<i>Pigment cells and patterns</i>	
Kühn, A. — c	D
<i>Nervous system</i>	
Baffoni, G. M. — a	D
Dan, K. — d	D
Kawamura, K. — a	D
<i>Eye</i>	
Castiglioni, Miss M. C. — a	D
Wolsky, A. — b	D
<i>Skeleton</i>	
Okazaki, Miss K. — b	G
<i>Muscular system</i>	
Nüesch, H. — b	D
<i>Sex determination</i>	
Lallier, R. A. — e	C
Legrand, J.-J. — a	D
Urbani, E. — b	D
<i>Endocrine glands</i>	
Lüscher, M. — b	D

f Histo- and cytogenesis

**7 Further development of
Vertebrates**

a General investigations

General subjects

Nicholas, J. S. — e	
Remotti, E. — a	
Rugh, R. — a, b	(4)
Holmdahl, D. E. — a	V
Hama, T. — b	(5)LV
Anton, H.-J. — b	J
Battle, Miss H. I. — c	(5)J
Cambar, R. — d	J
Gothié, Miss M. M. C. S. — a, b	J
Goto, T. — a	(5)J
Guardabassi, Miss A. — c	(6)J
Holtfreter, J. K. F. — a	(4)J
Kawakami, I. — b	(5)J
Kawakami, Mrs K. I. — b	(5)J
Kemp, N. E. — b	J
Leone, V. — a	(5)J
Lombard, G. L. — b	J
Malamed, S. — a	(5)J
Markert, C. L. — b	(5)J
Mifune, S. — a	(5)J
Okada, T. — b	J
Pollicita, Miss M. — a	J
Reverberi, G. — a	(5)J
Schenk, R. — b	(5)J
Shaver, J. R. — d	J
Srivastava, M. D. L. — b	(4)J
Takamoto, K. — b	J
Urbani-Mistruzzi, Mrs L. — a	J
Vintemberger, P. — a	J
New, D. A. T. — a	L
Ozburn, R. H. — a	(5)L
Wolff, Et. — a	L
Zwilling, E. — a	(6)L
Zwilling, E. — c	L
Beatty, R. A. — a	M
Gothié, Miss M. M. C. S. — d	M
Nicholas, J. S. — j	M
Sinclair, J. G. — b	(5)M
Smithberg, M. — a	M
<i>Complete development</i>	
Amprino, R. M. — c	L
<i>Partial development</i>	
Pflugfelder, O. — c	(6)I
Pesonen, S. K. — a	(5)J

- Töndury, G. — d (6)J
Implantation and placentation
 Bautzmann, H. — c V
- b Topogenesis**
 Battle, Miss H. I. — a (5)I
 Waddington, C. H. — a J
 Tribe, Miss M. — a L
 Waddington, C. H. — a L
- Early development*
 Colombo, G. — b (6)J
 De Cesare, Miss I. and
 Pasquini, P. — a (5)J
 Goto, T. and
 Hama, T. — b (5)J
 Green, Mrs E. U. — a (5)J
 Pasquini, P. and
 Raunich, L. — c (4)J
 Rossini, Miss M. C. — a (5)J
- Gastrulation and formation of
 germ layers*
 Trinkaus, J. P. — a I
 Nieuwkoop, P. D. — b J
 Różewska, Miss J. W. — a (5)L
- Neurulation*
 Rossini, Miss M. C. — b J
- Formation of neural crest*
 Holmdahl, D. E. — c V
 Newth, D. R. — a I
 Saunders, J. W. — a L
- c Induction, determination, etc.**
 Ikushima, N. — b
 Yamada, T. — a V
 Bautzmann, H. — a J
 Kawakami, I. — a J
 Nieuwkoop, P. D. — d J
 Takaya, H. — c J
 Twitty, V. C. — c J
 Nieuwkoop, P. D. — f L
- Induction*
 Okada, T. — c
 Perri, T. — e
 Woerdeman, M. W. — c V
 Dokter, H. — a J
 Eyal—Giladi, Mrs H. — a J
 Feldman, M. — a J
 Fremery, Miss R. de — a J
 Goodhart, C. B. — b J
 Haggis, A. J. — a J
- Harrison, R. G.
 (New Haven) — b J
 Hayashi, Y. — a J
 Masuda, H. — c J
 Mijsberg, Miss M. — a J
 Nicholas, J. S. — c J
 Nieuwkoop, P. D. — e J
 Nigtevecht, G. van — a J
 Oka, H. — a J
 Perri, T. — a J
 Reyer, R. W. — a, b J
 Sande, Miss A. van der — a J
 Schechtman, A. M. and
 Smith, A. S. — f J
 Spofford, W. R. — a J
 Toivonen, S. I. — f J
 Yamada, T. — b J
 Yntema, C. L. — a J
 Woerdeman, M. W. — b HV
 Dokter, H. — b L
 Grabowski, C. T. — a L
 McKeehan, M. S. — a L
 Nieuwkoop, P. D. — g L
 Grobstein, C. — b M
 Hardy, Miss M. H. — a M
 Toivonen, S. I. — e (5)M
- Determination*
 Oppenheimer, Miss J. M. — a I
 Hörstadius, S. — b J
 Lallier, R. A. — d J
 Moore, J. A. — a J
 Raunich, L. — c J
 Reyer, R. W. — b J
 Smith, S. — b J
 Spofford, W. R. — a J
 Ahsan-ul-Islam — a L
 McKeehan, M. S. — b L
 Grobstein, C. — c M
 Nicholas, J. S. — d M
- Regulation and organization*
 Balinsky, B. I. — a J
 Dollander, A. — b J
 Egmond, Miss M. T. C. van — a J
 Hama, T. — a J
 Heath, H. D. — b J
 Nieuwkoop, P. D. and
 Toivonen, S. — a J
 Smith, S. — b J
 Hampé, A. — a L
 Watterson, R. L. — a L

d Development of parts of the organism

Butler, E. G. — d	(4)J
Kollros, J. J. — f	J
Perri, T. — c	J
Wey-Schué, Mrs M. — b	(4)L

Head

Hörstadius, S. — b	J
Kollros, J. J. — f	J
Huber, W. — a	L

Limbs and wings

Blokzijl, E. J. — a	J
Durante, Miss M. — b	J
Harrison, R. G. — a	J
Lehmann, F. E. — f	J
Oka, H. — a	J
Perri, T. — b	J
Piatt, J. — b	J
Ruud, Miss G. — a	J
Tschumi, P. A. — a	(5)J
Bretscher, A. — b	(5)L
Bretscher, A. — c	L
Hampé, A. — a	L
Saunders, J. W. — c	L

Tail

Bijtel, Miss J. H. — a	J
Farinella-Ferruzza, Mrs N. — a	J
Kollross, J. J. — f	J
Zwilling, E. — b	L

e Development of special organ systems

Skin

General subjects	
Niu, M. C. — c	J
Lepori, N. G. — c	L
Rawles, Miss M. E. — c	L
Hardy, Miss M. H. — c	M
Niu, M. C. — c	M
Rawles, Miss M. E. — b, c	M
Wendt, G. G. — a	(4)M

Teeth

Goldsmith, E. D. — d	(6)M
Zaaijer, Miss J. J. P. — a	M

Hair

Hardy, Miss M. H. — a, c, d	M
Rawles, Miss M. E. — b	M

Feathers

Rawles, Miss M. E. — a	L
------------------------	---

Sense organs

Oksche, A. A. — b	J
-------------------	---

Pigment cells and patterns

Mori, Y. — a	I
Dalton, H. C. — a, b	J
Dushane, G. — b	J
Lepori, N. G. — c, d	L
Rawles, Miss M. E. — a	L
Saunders, J. W. — a	L
Sengel, Ph. J. — b	L
Willier, B. H. — b	L
Rawles, Miss M. E. — b	M

Nervous system

General subjects

Stefanelli, A. — b	I
Baffoni, G. M. — a	J
Gallera, J. — b	J
Sala, M. — a	J
Spofford, W. R. — b	J
Stefanelli, A. — b	J
Hamburger, V. and Levi-Montalcini, R. — a	L
Hammond, W. S. — b	L
Sengel, Ph. J. — b	L
Stefanelli, A. — b	L
Wenger, B. S. — a	L
Wrba, H. — a	M

Central nervous system

Eakin, R. M. — a	J
Egmond, Miss M. T. C. van — a	J
Nieuwkoop, P. D. — d	J
Godina, G. — c	L
Grabowski, C. T. — a	L
Nieuwkoop, P. D. — f	L
Watterson, R. L. — c, d	(5)L

Brain

Oppenheimer, Miss J. M. — a	I
Crelin, E. S. and Stone, L. S. — b	J
Kollross, J. J. — b, f	J
McMurray, Miss V. M. — a	(4)J
Harkmark, W. — a	L
Hillemann, H. H. — g	L
Williams, S. C. — a	L
Liu, J. C. — b	M

Spinal cord

Holmdahl, D. E. — b	V
Kollros, J. J. — f	J
Littrell, J. L.; Windle, W. F. and Stuart, E. G. — b	L
Cates, C. H. — a	M

Ganglia

Kollros, J. J. — f	J
--------------------	---

Spinal ganglia

Dushane, G. — a

Strudel, G. — a

Cates, C. H. — a

Nerves

Piatt, J. — b

Edds, M. V., Jr — b

Para- and sympathetic and intramural nervous system

Hammond, W. S. and

Yntema, C. L. — a

Strudel, G. — a

Special sense organs

Kawakami, I. — a

Eye

Reyer, R. W. — b

Reinbold, R. — b

Eye (s.s.)

Guardabassi, Miss A. — a, b

Jacobson, A. — a

Saxén, L. O. — b

Amprino, R. M. — a, b

Coulombre, A. J. — b

Lens

McKeehan, M. S. — a, b

Ear

Guardabassi, Miss A. — d

Harrison, R. G.

(New Haven) — b

Yntema, C. L. — a

Lateral sense organs

Kille, R. A. — a, b

*Skeleton**General subjects*

Hale, L. J. — a

Kieny, Miss M. A. — a

Murray, P. D. F. — b

Zahnd, J. P. — a

Goldsmith, E. D. — d

Grüneberg, H. — a

Toivonen, S. I. — e

Williams, R. G. — b

Zaaijer, Miss J. J. P. — c

Skull

Kille, R. A. — a

Hammond, W. S. and

Yntema, C. L. — d

Truncal skeleton

Holtzer, K. — a

Watterson, R. L. — b

*Muscular system**General subjects*

Herrmann, H. and

Rothfels, U. — b

Königsberg, I. R. and

Herrmann, H. — c

Skeletal muscles (head, trunk and tail)

Rawles, Miss M. E. — d

Muscles of limbs and wings

Blokzijl, E. J. — a

*Alimentary tract**General subjects*

Maltese, Miss C. — a

Okada, T. — a

Palazzo, Miss F. — a

Mouth and pharyngeal cavities

Hamilton, H. L. — a

Intestinal tract

Takaya, H. — a

Liver

Filogamo, G. — a

*Respiratory organs**External gills*

Durante, Miss M. — a

*Heart, vascular system and blood**General subjects*

Holmdahl, D. E. — d

Stephan, F. — a

Heart

Wilens, Miss S. — a

Stephan, F. — a

Wrba, H. — a

Arterial and venous system

Stephan, F. — a

Watterson, R. L. — d

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

Gyllensten, L. J. W. — a

*Urogenital system and sex**determination**General subjects*

Gaillard, P. J. — a

Kidney

Bijtel, Miss J. H. — b

Cambar, R. — a

Haffen, Miss K. — a

Urinary ducts

Burns, R. K. — b

Gonads

Salzgeber, Miss B. — c	(5)
Querner, H. — b	I
Amanuma, A. — a	(4)J
Attardo, Miss C. — a	J
Vannini, E. — b, c	J
Witschi, E. — f	J
Haffen, Miss K. and Wolff, Et. — b	L
Limborgh, J. van — a	L
Vannini, E. — b	L
Witschi, E. — f	L
Burns, R. K. — b	(6)M
Vannini, E. — b	M
Witschi, E. — f	M

Genital tracts and accessory glands

Querner, H. — b	I
Lutz—Ostertag, Mrs Y. — a	L
Burns, R. K. — b	(6)M

Sex determination

Yamamoto, T. — b, c	I
Attardo, Miss C. — a	J
Chang, C. — a	(6)J
Chang, C. — b	J
Takaya, H. — b	J
Witschi, E. — c	J
Witschi, E. — d	(6)J

Wolff, Et.; Haffen, Miss K. and Wolff, Mrs Em. — d	HV
Limborgh, J. van — b	L
Mintz, Miss B. — a	(6)L
Salzgeber, Miss B. — a	(4/5)L
Salzgeber, Miss B. and Wolff, Et. — b	(4)L
Scheib—Pfleger, Mrs D. — a	(6)L
Wolff, Mrs Em. — b	L
Wolff, Mrs Em. and Wolff, Et. — a	(6)L
Wolff, Et.; Wolff, Mrs Em.;	
Lutz—Ostertag, Mrs Y.;	
Scheib—Pfleger, Mrs D.;	
Salzgeber, Miss B.; Hampé, A. and Strudel, G. — b	L
Burns, R. K. — a	(6)M
Jost, A. D. — a	(6)M
Jost, A. D. — c	M

Endocrine glands

Hypophysis	
Blount, R. F. — b	J
Dalton, H. C. — b	J
Eakin, R. M. — a	J

Thymus

Hammond, W. S. — c	L
Thyroid gland	
Dossel, W. E. — a	L
Gaillard, P. J. — b	L

Adrenals

Witschi, E. — f	J, L, M
-----------------	---------

f Histo- and cytogenesis

Stefanelli, A. — a	I
Feldman, M. — a	J
Gallera, J. — b	J
Lehman, H. E. — b	(4/5)J
Stefanelli, A. — a	J
Levi, G. L. — a, b	HV
Abercrombie, M. — a	L
Abercrombie, M. and Heaysman, Miss J. E. M. — b	L
Filogamo, G. — a	L
Rudewicz, Mrs Cz. — a	(5)L
Stefanelli, A. — a	L
Trinkaus, J. P. — b	L
Willier, B. H. — b	L
Grobstein, C. — a, c	M

**8 Growth and differentiation
(Invertebrates and Vertebrates)**

a Growth

Altschul, R. — a	
Weiss, P. A. — d	
Legrand, J.-J. — c	D
Clark, H. and Shannon, J. E. — e	V
Church, G. — a	J
Hamburger, V. — b	J
Kollros, J. J. — b	J
Levi-Montalcini, Miss R. — b	J
Oksche, A. A. — a	J
Bagiński, S. — a	(5)L
Mickiewicz, Miss Z. — b	(5)L
Różewska, Miss J. W. — b	(5)L
Rudewicz, Mrs Cz. — b	(5)L
Edds, M. V., Jr — b	M
Williams, R. G. — a	M

a/b Growth and differentiation

Töndury, G. — c	
Weiss, P. A. — a	
Kawamura, K. — a	D
Levi, G. L. — a	HV
Godina, G. — c	L
Zwilling, E. — d	L

Grobstein, C. — a	M	Rose, S. M. — a	J
b Differentiation		Stefanelli, A. — a	J
Loecher, Miss E. and		Haffen, Miss K. and	
Schnetter, M. — a	D	Wolff, Et. — b	L
Poulson, D. F. — b	D	Hale, L. J. — a	L
Stefanelli, A. — a	I	Herrmann, H. and	
Briggs, R. W. and		Rothfels, U. — b	L
King, T. J. — a	J	Stefanelli, A. — a	L
Lehman, H. E. — b	(4/5)J	Williams, S. C. — a	L
Markert, C. L. — c	J	Zwilling, E. — c	L

III. PHYSIOLOGY OF DEVELOPMENT SUBDIVISION

- 1 *Theoretical problems*
- 2 *Methods and technics*
- 3 *General subjects (asexual development, 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 (complete development)
 - b Primitive development (including early development)
 - c Induction and determination
 - d Development of part of the organism
 - e Development of special organ systems
(Cf. general subdivision p. 124—126)
 - 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 Primitive development
 - 1 Early development
 - 2 Gastrulation
 - 2/3 Gastrulation and neurulation
 - 3 Neurulation
 - 4 Development of neural crest

- c Induction and determination, etc.
 - 1 Induction
 - 2 Determination
 - 3 Regulation and organisation
- d Development of part of the organism
 - 1 Head
 - 2 Limbs and wings
 - 3 Tail
- e Development of special organ systems
(Cf. general subdivision p. 124—126)
- 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) Cytochemistry
- (3) Physical properties
- (4) Physical treatment
- (5) Chemical treatment
- (6) Influence of hormones and vitamins

1 *Theoretical problems*

- Perri, T. — d
 Woerdeman, M. W. — b HV

2 *Methods and technics*

- Csapo, A. I. — e
 Lerman, L. — b
 Marchlewski, J. H. — a

3 *General subjects*

(asexual development, etc.)

- Kuhn, O. — a (6)
 Lanzavecchia, G. — a (2)
 Centamori, M. — a (2)Plants
 Centamori, M. — c (4)Plants
 Holter, H. — b P
 Mookerjee, S. — b P
 Crisp, D. J. — a D
 Goldsmith, E. D. — c D
 Urbani, E. — d (2)D
 Cohen, A. I. — b (1)J
 Nicoletti, B. — a J
 Taleporos, P. D. — b J
 Hillemann, H. H. — f L
 Cheney, R. H. — b (5)M
 Corner, G. W. — b M

- Goldsmith, E. D. — e M
 Reynolds, S. R. M. — b M
 Young, W. C. — a, b M

4 *Initial development*

a *General subjects*

- Kajishima, T. — b (2)D
 Zweibaum, J. — b (2)D
 Urbani—Mistruzzi, Mrs L. — b E
 Harvey, Mrs E. Browne — b G
 Kiessling, K.-H. — a (1)G
 Lindahl, P. E. — b, c (2)G
 Smith, S. — a I
 Vakaet, L. C. — a (2)I
 Barth, L. G. — a (2)J
 Barth, Mrs L. J. — a (1)J
 Dollander, A. and
 Vivier, Miss F. — a (3)J
 Dollander, A. and
 Melnotte, P. J. — c (3)J
 Minganti, A. — c J
 Orlandi, Miss A. — b J
 Witschi, E. — a (1)J
 Baiocchi, O.:
 Moricard, R. and
 Gothié, Miss M. M. C. S. — a M

- Nicholas, J. S. — a M
 Waelsch, Mrs. S. Gluecksohn — b M
- b Primordial germ cells**
- c Gameto-, ovo- and spermatogenesis**
- Erençin, Z. — a (6)
 Jaffe, L. F. — a Plants
 Tyler, A. — c EV+V
 Vannini, E. — a (2)EV+V
 Urbani, E. — c (2)D
 Battaglia, B. — a (2)E
 Ranzoli, F. — a (2)E
 Mazia, D. — b (2)G
 Urbani, E. — c (2)G
 Baffoni, G. M. — b (6)J
 Dollander, A. and
 Losseroy, J. — g (5)J
 Hayashi, Y. and
 Osawa, S. — b (2)J
 Hillemann, H. H. — f L
 Bishop, D. W. — a (1)M
 Bishop, D. W. — b M
 Clegg, E. J. — a M
 Harrison, R. G.
 (Liverpool) — a (1)M
 Macmillan, E. W. — a M
 Nilsson, Miss A. E. A. — a M
 Urbani, E. — c (2)M
 Young, W. C. — a (6)M
- d Maturation**
- Kihlström, J.-E. — a, b M
 Lindahl, P. E. — d M
- e Ovulation and oviposition**
- f Activation and fertilization**
- Cleland, K. W. — a, c (1/3)E
 Colwin, A. L. and
 Colwin, Mrs L. H. — a F
 Cleland, K. W. — a (1)G
 Endo, Y. — a (2)G
 Ishikawa, M. and
 Sugiyama, M. — a G
 Merritt, Mrs J. K. and
 Tyler, A. — a G
 Metz, C. B. — b (2)G
 Monroy, A. — a, b G
 Nakano, E. — b (1)G
 Nakano, E. — c G
 Tyler, A. — a G
 Minganti, A. — b H
- Yamamoto, T. — a I
 Okazaki, R. — b (2)J
 Shaver, J. R. — b J
 Austin, C. R. and
 Braden, A. W. H. — a, b (2/3)M
 Kihlström, J.-E. — b M
 Lindahl, P. E. — e M
 Young, W. C. — a (6)M
- g Parthenogenesis**
- Ishikawa, M. and
 Sugiyama, M. — a G
 Rostand, J. — a (4)J
 Shaver, J. R. — a J
- 5 Cleavage and mitosis**
- Harvey, Mrs E. Browne — b G
 Zeuthen, E. — c (4)G
 Waelsch, Mrs S. Gluecksohn — b M
- a Cleavage**
- Wolsky, A. — a (4)C
 Berg, W. E. — a (1)E
 Cleland, K. W. — a, c (1/3)E
 Urbani—Mistruzzi, Mrs L.
 — b (1)E
 Cleland, K. W. — a (1)G
 Kuno, M. — a G
 Wolsky, A. — a (4)G
 Zeuthen, E. — a (1)G
 Green, Mrs E. U. — a (2/5)J
 Shaver, J. R. — c J
 Zeuthen, E. — a (1)J
 Austin, C. R. and
 Braden, A. W. H. — a (2)M
- b Mitosis**
- Mazia, D. — c (2)
 O'Connor, R. J. — a (2)V
- 6 Further development of Invertebrates**
- a General subjects (complete development)**
- Knight-Jones, E. W. — b EV
 Bonner, J. T. — a P
 Monné, L. — a C
 Seidel, F. — b C
 Bodenstein, D. — b (1/6)D
 El Shatoury, H. — f (6)D
 Fautrez-Firlefyn, Mrs N. J.
 — a (2)D

- Göszwald, K. — b D
- Henke, K. mit
Mitarbeitern — b D
- Kloft, W. — a D
- Lüscher, M. — a D
- Pflugfelder, O. — a (1/6)D
- Seidel, F. — b D
- Shulov, A. — a (4)D
- Ulrich, H. — a (3)D
- Dinger, Miss C.:
Dongen, W. J. van:
Groot, B. de:
Heyningen, Miss H. E. van:
Janssen, C. R. and
Raven, Chr. P. — a (5)E
- Dorp van Vliet, N. O. van
— a (5)E
- Erkel, G. A. van:
Roon, A. C. de and
Stadhouders, A. M. — a (4)E
- Geilenkirchen, W. L. M. — a (1)E
- Kessler, H. F. — a (5)E
- Mooy, Miss H. W. — a (5)E
- Nijenhuis, E. D. — a (5)E
- Raven, Chr. P. — b (5)E
- Blumenthal, Miss G. H. — a G
- Brookbank, J. W. — a (2)G
- Cheney, R. H. — a (5)G
- Cigada, Miss M. — a (2)G
- Harvey, Mrs E. Browne — b G
- Holter, H. — a (2)G
- Kavanau, J. L. — a (1/5)G
- Mazia, D. — a (2)G
- Colwin, A. L. — c (5)H
- b Primitive development
(including early development)**
- Jaffe, L. F. — b Plants
- Tyler, A. — b C
- Kajishima, T. — b (2)D
- Cheney, R. H. — d (1/5)G
- Lindahl, P. E. — b, c G
- Tyler, A. — b G
- Ortolani, Miss G. — a H
- c Induction and determination**
- Barth, L. G. — b B
- Citterio, P. — a (1)G
- Hörstadius, S. — a G
- Lallier, R. A. — d G
- McKeehan, M. S. — c (2)G
- Ranzi, S. — a G
- Barth, L. G. — b H
- d Development of part of the
organism**
- e Development of special organ
systems**
- Eye*
- Butz, P. and
Lüdtke, H. — a D
- Haas, G. and
Lüdtke, H. — a D
- Lüdtke, H. — a D
- McKeehan, M. S. — c (2)G
- Blood*
- El Shatoury, H. — c D
- Sex determination*
- Aubry, Miss R. — b E
- f Histo- and cytochemistry**
- Osawa, S. — b (2)EV
- Mancuso, V. — b (2)E
- Swedmark, B. G. — a G
- Mancuso, V. — a (2)H
- g Serological studies**
- El Shatoury, H. — d D
- 7 Further development of
Vertebrates**
- a General investigations**
- General subjects*
- Rugh, R. — a (4)
- Schechtman, A. M. — a (3)
- Sinclair, J. G. — e
- Castigli Pitotti, Mrs M. — c (1)V
- Goodhart, C. B. — a V
- Baxter, E. W. — c I
- Querner, H. — a (6)I
- Sundell, L. E. — a I
- Tracy, H. C. — c I
- Winblad, J. — b I
- Becht, G. — a (4)J
- Bondi, C. — a (2)J
- Brachet, J. L. A. — c (5)J
- Bruner, Miss J. A. — b (1)J
- Cenacchi, Miss M. — a (1)J
- Cigada, Miss M. — a (2)J
- Grant, Ph. — b (2)J
- Gregg, J. R. — a (1)J
- Guardabassi, Miss A. — c (6)J

- Hoff-Jørgensen, E. and Zeuthen, E. — a (2)J
 Holtfreter, J. K. F. — a (4)J
 Kemp, N. E. — b (1)J
 Lallier, R. A. — a, c (5)J
 Løvtrup, S. — b J
 Mifune, S. — b (1/2)J
 Moore, Mrs B. C. — a (2)J
 Nace, G. W. — a (1)J
 Sundell, L. E. — a J
 Takata, K. — a (2)J
 Thomason, Miss D. — a (2)J
 Urbani, E. — a (1/5)J
 Urbani—Mistruzzi, Mrs L. — a J
 Waddington, C. H. and Yates, H. — d (1)J
 Yates, Miss H. B.; Waddington, C. H. and Dainty, J. — a (1)J
 Bose, A. and Mookerjee, S. — a (2/4)L
 Centamori, M. — b (2)L
 Cigada, Miss M. — a (2)L
 Evans, H. J. — a (5)L
 Hamilton, H. L. — c (1)L
 Henke, K. mit Mitarbeitern — b L
 Hunt, E. L. — a, b (1)L
 Moog, Miss F. — a (1)L
 O'Connor, R. J. — b (1)L
 Rudnick, Miss D. — a (2)L
 Saunders, J. W. — e (4)L
 Caspari, E. W. — c M
 Cheney, R. H. — b (5)M
 Levy, Mrs G. — a (6)M
 Moog, Miss F. — a (1)M
 Seidel, F. — a M
 Sinclair, J. G. — f M
 Smithberg, M. — b M
 Snyder, F. F. — a, b (1/5)M
 Sundell, L. E. — a M
 Waelsch, Mrs S. Gluecksohn — b M
 Young, W. C. — a (6)M
- Later development*
 Fitzgerald, L. R. — a, b (1/4)M
 Hillemann, H. H. — c M
- Implantation and placentation*
 Bautzmann, H. — c V
 Böving, B. G. — a M
 Clark, H. and Honio, Miss B. — d K
- Csapo, A. I. — b, c, d (2/3/6)M
 Csapo, A. I. — f M
 Flexner, L. B. — b M
 Harrison, R. J. — f (2)M
 Hillemann, H. H. — a M
 Schenk, R. — a (2)M
 Wislocki, G. B. — a (2)M
 Zweibaum, J. — a (2)M
- Development of behaviour*
 Batty, Th.; Tracy, H. C. and Winblad, J. — a I
 Harris, J. E. and Whiting, H. P. — a I
 Tracy, H. C. — b, c I
 Crelin, E. S. and Stone, L. S. — b J
 Faber, J. — b J
 Saxén, L. O. — a J
 Hooker, D. — a, b M
- b Primitieve development (including early development)**
 Hishida, T. and Nakano, E. — a (1)I
 Okazaki, R. and Osawa, S. — a (2/5)J
 Bellairs—Morgan, Mrs M. R. — b L
 Ford, P. — a (2)L
 Gould, R. P. — a L
 Skreb, N. — a (2)M
- Early development*
 Nakano, E. — a (1)I
 Brachet, J. L. A. and Pasteels, J. J. — b (2)J
 Cohen, A. I. — a (1)J
 Green, Mrs E. U. — a (2/5)J
 Ikushima, N. — a (3)J
 Masuda, H. — a (2)J
 Rostand, J. — d (4)J
- Gastrulation and neurulation*
 Newth, D. R. — b (3)J
 Selman, G. G. — b J
- c Induction and determination, etc.**
 Nieuwkoop, P. D. — d J
- Induction*
 Deuchar, Miss E. M. — b (2)J
 Engländer, H. — a J
 Ficq, Mrs A. A. — b J
 Johnen, Miss A. G. — a J

- Kuusi, Miss T. K. — a, c (2)J
 Kuusi, Miss T. K. — b J
 Lallier, R. A. — b (5)J
 Nicholas, J. S. — c J
 Okazaki, R. — c (5)J
 Okazaki, R. and
 Osawa, S. — a (2)J
 Rollhäuser—ter Horst,
 Mrs J. O. B. — a (5)J
 Takata, K. — b (2)J
 Vahs, W. — a J
 Vahs, W. — b (2)J
 Nieuwkoop, P. D. — g L
 Vahs, W. — b (2)M
Determination
 Citterio, P. — a (1)J
 Lallier, R. A. — d J
 Ranzi, S. — a J
Regulation and organization
 Hama, T. — a (2)J
**d Development of parts of the
 organism**
Limbs and wings
 Tempelton, M. — a (2)L
**e Development of special organ
 systems**
Skin
 General subjects
 Toivonen, S. I. — a J
 Hair
 Hardy, Miss M. H. — b M
 Isings, J. — a, b (2)6)M
 Feathers
 Kuhn, O. — b L
 Rawles, Miss M. E. — a L
 Willier, B. H. — a (2)L
 Glands
 Cohn, S. A. — b (2)M
Pigment cells and patterns
 Hishida, T. and
 Yamamoto, T. — b I
 Lehman, H. E. — a (1)J
 Niu, M. C. and
 Twitty, V. C. — a, b J
 Dossel, W. E. — b L
 Ebert, J. D. — b (2)L
 Hamilton, H. L. — b L
 Markert, C. L. — a (1)L
 Rawles, Miss M. E. — a L
- Saunders, J. W. — b, d L
 Willier, B. H. — a, b (2)L
 Willier, B. H. — c (6)L
 Dossel, W. E. — b M
 Hardy, Miss M. H. — b M
 Markert, C. L. — a (1)M
Nervous system
 General subjects
 Tracy, H. C. — b I
 Faber, J. — b J
 Roofe, P. G. and
 Wenger, Mrs E. L. — a (2)J
 Hamburger, V. and
 Levi-Montalcini, R. — a L
 Wenger, B. S. — a (2)L
 Preto Parvis, Mrs V. — a (2)M
Central nervous system
 Janosky, I.; Wenger, E. and
 Roofe, P. — a (2)J
 Keller, L.; Wenger, E. and
 Roofe, P. — a (2)J
 Edgar, G. W. F. — a (2)M
 Teyseyre, Miss J. — a (6)M
Brain
 Shen, S. C. — a J
 Flexner, L. B. — a M
 Giroud, A. — a M
Spinal cord
 Holtzer, K. — b J
 Zuidweg, M. H. J. — a (2)L
Accessory organs
Paraphysis
 Langevoort, H. L. — a L
Nerves
Spinal nerves
 Tempelton, M. — a (2)L
Special sense organs
Eye
 Crelin, E. S. and
 Stone, L. S. — a J
 Stone, L. S. — b J
 Hermann, G. and
 Lüdtke, H. — a M
Eye (s.s.)
 Rhodes, S. A. — a (2)J
 Saxén, L. O. — a J
 Coulombre, A. J. — a (2)J
 Coulombre, A. J. — b L
Lens
 Bon, W. F.; Cate, G. ten and
 Zuidweg, M. H. J. — a (2)J, (2)L

Ear			
Bergeijk, W. A. van — a	J		
Skeleton			
General subjects			
Batty, Th. — c	I		
Hale, L. J. — a	L		
Hogewoning, C. H. — a, b	(6)L		
Kieny, Miss M. A. — a	L		
McCallion, D. J. — a	(2)L		
Truncal skeleton			
Bose, A. — b	(2)L		
Muscular system			
General subjects			
Kalk, Mrs M. J. — a	(2)J		
Herrmann, H.;			
Königsberg, I. R. and			
Lerman, L. — a	(2)L		
Königsberg, I. R. and			
Herrmann, H. — b	(2)L		
Nicholas, J. S. — b	(2)M		
Rollhäuser, H. — a	M		
Villafranca, G. W. de — a	M		
Villafranca, G. W. de — b	(2)M		
Visceral muscles (head and trunk)			
Csapo, A. I. — a	M		
Alimentary tract			
General subjects			
Batty, Th. — b	I		
Liver			
Armstrong, P. B. — a	I, J		
Flexner, L. B. — a	M		
Hillemann, H. H. — d	(1)M		
Padykula, Miss H. A. — a	(2)M		
Respiratory organs			
Lungs and larynx			
Clark, H. — b	K		
Heart, vascular system and blood			
General subjects			
Batty, Th. — c	I		
Reynolds, S. R. M. — a	M		
Heart			
Grodziński, Z. — a	(4)I		
Duffey, L. M. — a	L		
Ebert, J. D. and			
Tolman, R. — a	(2)L		
Hall, E. K. — a	M		
Arterial and venous system			
Froud, M. D. — b	L		
Bartelmez, G. W. — a	M		
Capillary system			
Bartelmez, G. W. — a	M		
Blood			
Urbani, E. — e	(2)V		
Nicoletti, B. — b	J		
Knight, Miss P. and			
Schechtman, A. M. — a	L		
Schjeide, A. E. — a	L		
<i>Coelomic cavities and endothelia, lymphatic system and connective tissue</i>			
Lymphatic system			
Menschik, Z. — b	(2)M		
<i>Urogenital system and sex determination</i>			
General subjects			
Torrey, T. W. — a	(2)M		
Kidney and urinary ducts			
Clark, H. — a	K		
Clark, H. and			
Fischer, D. — c	L		
Johnson, F. R. — a	M		
Gonads			
Asayama, S. — b	(2)J		
Takamoto, K. — a	(2)J		
Haffen, Miss K. — c	L		
Limborgh, J. van — a	L		
Genital tracts			
Mintz, Miss B. — b	(2)L		
Scheib—Pfleger, Mrs D. — a	(2)L		
Bartelmez, G. W. — a	M		
Corner, G. W. — b	M		
Csapo, A. I. — a	M		
Reynolds, S. R. M. — b	M		
Sex determination			
Asayama, S. — a	(6)J		
Bellanca, Miss A. — a	(6)J		
Bruner, Miss J. A. — a	(6)J		
Humphrey, R. R. — c	J		
Miyamori (Yamamoto), H. — a	(6)J		
Limborgh, J. van — b	L		
Lutz—Ostertag, Mrs Y. and			
Wolff, Et. — b	(6)L		
Reinbold, R. — a	(6)L		
Wolff, Et.; Wolff, Mrs Em.;			
Lutz—Ostertag, Mrs Y.;			
Scheib—Pfleger, Mrs D.;			
Salzgeber, Miss B.;			
Hampé, A. and			
Strudel, G. — b	L		

*Endocrine glands***General subjects**

Willier, B. H. — d V
 Königsberg, I. R. — a (1)L
 Blount, R. F. — c M

Hypophysis

Blount, R. F. — a J
 Albright, J. F. — a (2)L
 Amprino, R. M. — c L
 Vogel, N. W. — a L
 Jost, A. D. — b M

Thyroid gland

Dossel, W. E. — a L
 Jost, A. D. — b M

Gonads

Witschi, E. — f J
 Vogel, N. W. — a L
 Witschi, E. — f L, M

Adrenals

Witschi, E. — f J
 Leroy, P. J. M. — a L
 Witschi, E. — f L
 Jost, A. D. — b M
 Witschi, E. — f M

f Histo- and cytochemistry

Fautrez, J. C. — a
 Sauser, G. — b
 Arosio, G. — a V
 Osawa, S. — b (2)V
 Woerdeman, M. W. — c V
 Dent, J. N. — a J
 Deuchar, Miss E. M. — a J
 Ficq, Mrs A. A. — a (5)J
 Kuusi, Miss T. K. — b J
 Mookerjee, S. — a J
 Nicholas, J. S. — f, g J
 Nicoletti, B. — b J
 Raunich, L. — g J
 Steinert, M. — a, b J
 Hogewoning, C. H. — a, b (6)L
 Mookerjee, S. — a L
 Preto Parvis, Mrs V. — b L
 Spratt, N. T., Jr — b L
 Cohn, S. A. — b M
 De, P. and Mookerjee, S. — a M
 Friberg, U. and
 Ringertz, N. — a M
 Graumann, W. — a M
 Hillemann, H. H. — d M
 Hintzsche, E. — a M
 Johnson, F. R. — b M

Menschik, Z. — b M
 Nicholas, J. S. — f, g M
 Preto Parvis, Mrs V. — b M
 Preto Parvis, Mrs V. and
 Roncoroni, G. — c M
 Torrey, T. W. — a M

g Serological and immunological studies

Arosio, G. — b J
 Clayton—Freedman,
 Mrs R. M. — a J
 Kalk, Mrs M. J. — a J
 Manelli, E. — a J
 Nace, G. W. — a, b J
 Albright, J. F. — a L
 Ebert, J. D. and
 Tolman, R. — a L
 Ebert, J. D. — b L
 Heim, W. G. — a L
 Knight, Miss P. and
 Schechtman, A. M. — a L
 Langman, J. — e L
 Mun, A. M. — a L
 Schechtman, A. M. and
 Weller, E. — b L
 Trollope, Miss E. M. — a L
 Arosio, G. — b M
 Billingham, R. E. — a M
 Brambell, F. W. R. — a M
 Clayton—Freedman,
 Mrs R. M. — b, d M
 Halliday, R. — a M
 Hemmings, W. A. — a M
 Medawar, P. B. — a M

8 Growth and differentiation
(*Invertebrates and Vertebrates*)**a Growth**

Altschul, R. — a
 Cheney, R. H. — c Plants
 Bodenstein, D. — a (6)D
 El Shatoury, H. — f (6)D
 Pantelouris, E. M. — a D
 Cheney, R. H. — a (5)G
 Oksche, A. A. — a (6)J
 Harris, M. — a, b L
 Kutsky, R. J. — a (5)L
 Spratt, N. T., Jr — a L
 Kuusi, Miss T. K. — d (2)M
 McCallion, D. J. — b (6)M

a/b Growth and differentiation

Dainty, J. — a (3/4)
 Boell, E. J. — a (2)J
 Levi, G. L. — b HV
 Hintzsche, E. — b (5)M

b Differentiation

Bonner, J. T. — a P
 Sippel, T. O. — a (1/4)D
 O'Connor, R. J. — a V
 Clayton—Freedman,
 Mrs R. M. — a J
 Løvtrup, S. — a (2)J
 Hale, L. J. — a L
 Hamilton, H. L. — b L
 Herrmann, H.;
 Königsberg, I. R. and
 Lerman, L. — a (2)L
 Clayton—Freedman,
 Mrs R. M. — d (2)M

9 Nutrition of embryo*(Invertebrates and Vertebrates)*

Wolff, Mrs Em. — c
 Leibbrandt, Miss M. and
 Schnetter, M. — a D
 Kavanau, J. L. — a (5)G
 Sundell, L. E. — a (2)I, (2)J
 Wolff, Et.; Haffen, Miss K.
 and Wolff, Mrs Em. — d HV
 Byczkowska, Miss W. — a L
 Herrmann, H. and
 Rothfels, U. — c (6)L
 Spratt, N. T., Jr — a L
 Witschi, E. — g L
 Wolff, Mrs Em. — b L
 Menschik, Z. — a M
 Sundell, L. E. — a (2)M

IV. DEVELOPMENT AND GENETICS**SUBDIVISION****1 Theoretical problems and general questions**

a Theoretical problems
 b 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

CHARACTER OF INVESTIGATION

(1) Metabolism and respiration
 (2) Cytochemistry
 (4) Physical treatment
 (6) Influence of hormones and vitamins

1 Theoretical problems and general questions**a Theoretical problems****b General questions**

Poulson, D. F. — b
 Orlandi, Miss A. — a (2)V
 Beatty, R. A. — b M
 Caspari, E. W. — c M

2 General genetical studies**a General studies**

Benazzi—Lentati, Mrs G. — a C
 Lepori, N. G. — a, b C
 Papi, F. — a C
 Henke, K. mit
 Mitarbeitern — c D
 Sigot, A. — a D

Sippel, T. O. — a	(4)D	d Chimaera	
Ulrich, T. — a	(3)D	Baltzer, F.; Eymann, H.	
Waddington, C. H. — e	D	and Henzen, W. — b	J
Battaglia, B. — a	(2)E	Baltzer, F. — c	J
Baffoni, G. M. — b	(6)J	Carrano, Miss F. — a	J
Baltzer, F. and		Church, G. — a	J
Lehmann, H. E. — d	J	e Merogony	
Chang, C. — d	J	Harvey, Mrs E. Browne — a	G
Colombo, G. — a	J		
Humphrey, R. R. — e, f, g	J	3 Analysis of influence of	
Witschi, E. — c	J	<i>special genes and mutants</i>	
Markert, C. L. — a	(1)M	a Special genes and mutants	
Latimer, H. B. — c	M	Castiglioni, Miss M. C. — b	D
Markert, C. L. — a	(1)M	Castiglioni Miss M. C. — c	(2)D
McNutt, C. W. — b	M	Counce, Miss S. J. — a, c	D
Waelsch, Mrs S. Gluecksohn — a	M	Kühn, A. — b, c	D
b Heteroploidy		Nef, W. and	
Benazzi, M. — a	C	Rosin, S. — a	D
Hägqvist, G. — a	V	Sobels, F. H. — a	D
Fankhauser, G. — a	(4)J	Chang, C. — c	J
Fankhauser, G. — b	J	Dalton, H. C. — a	J
Fankhauser, G. — c, d	(6)J	Rostand, J. — b	J
Fankhauser, G. and		Kieny, Miss M. A. — b	L
Humphrey, R. R. — e, f	J	Landauer, W. — a	L
Humphrey, R. R. — c, d	J	Carter, T. C. — a, b	M
Moore, Mrs B. C. — a	J	Caspari, E. W. — b	M
Moore, J. A. — a	J	Clayton—Freedman,	
Beatty, R. A. — a	M	Mrs R. M. — b	M
Edwards, R. G. — a	M	Grüneberg, H. — a	M
c Hybridization		Lyon, Miss M. F. — a, b	M
Dodd, J. M. — a	E	McNutt, C. W. — a	M
Minganti, A. — a	H	Truslove, Miss G. M. — a	M
Baxter, E. W. — b	I		
Baltzer, F. — a	J	b Lethal factors	
Benazzi, M. — b	J	Ede, D. A. — a	D
Brachet, J. L. A. — a	(1)J	El Shatoury, H. — a	D
Gregg, J. R. — a	(1)J	Theiler, K. — a	V
Humphrey, R. R. — c, d	J	Humphrey, R. R. — f, g	J
Moore, J. A. — a	J	Landauer, W. — c	L

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. 124—126)

4 *Tumours*

1 *Theoretical problems and general questions*

2 *General investigations in pathological development*

a *General subjects*

- Sensenig, E. C. — e
 Töndury, G. — a
 Trampusch, H. A. L. and
 Visser, Miss P. J. — f
 Dodd, J. M. — b E
 Baltzer, F. — a J
 Fankhauser, G. and
 Humphrey, R. R. — e J
 O'Brien, J. P. — a J
 Perri, T. — a J
 Bartelmez, G. W. — d M
 Gruenwald, P. — b M
 Langman, J. and
 Nieuwenhuis, R. — b M
 Smithberg, M. — a M

b *Relation between host and graft*

- Pantelouris, E. M. — a D
 Ebert, J. D.;
 Albright, J. F. and
 Mun, A. M. — c L

c *Pathological influence of chemical treatment and deficiencies*

- Kuhn, O. — c
 Mori, H. — a D
 Creutzberg, F. — a E
 Dollander, A. and
 Marconnet, R. — f J
 Green, Mrs E. U. — a J
 Raunich, L. — f J
 Evans, H. J. — a L
 Gruenwald, P. — a L
 Herrmann, H. and
 Rothfels, U. — c L
 Landauer, W. — b, d L
 Langman, J. — c L
 Mickiewicz, Miss Z. — a L

- Giroud, A. — b, c M
 Gyllensten, L. J. W. — b M
 Lefebvres—Boisselot, Mrs J. — a M
 Morlon, Miss C. — a M
 Sinclair, J. G. — b M
 Williams, R. G. — c M

d *Pathological influence of physical treatment*

- Rugh, R. — c
 Beenackers, A. M. T. — a E
 Gennaro, J. F., Jr — a J
 O'Brien, J. P. — a, c J
 Teng Khoen Hing, J. T. and
 Trampusch, H. A. L. — a J
 Herrmann, H. and
 Rothfels, U. — c L
 Manhoff, L. J. — a L
 Wey—Schuë, Mrs M. — b L
 Gennaro, J. F., Jr — a M

e *Teratology*

- Wolff, Et. — a L
 Bruner, Miss J. A. — c M
 Faassen, F. van and
 Langman, J. — a M
 Giroud, A. — d M
 Grüneberg, H. — a M
 Levy, Mrs G. — b M

3 *Development of special malformations and pathological development of special organs*

a *Development of special malformations*

- Witschi, E. — b V
 Tschumi, P. A. — b J
 Bretscher, A. — a L
 Pflugfelder, O. — b L
 Haines, R. W. — a M
 Harrison, R. J. and
 Harrison Matthews, L. — e M
 Humphrey, Miss T. — c M

Lelièvre, A. — a	M	<i>Heart</i>	
Orts Llorca, F. — b	M	Dankmeijer, J. and	
Shaner, R. F. — b, c	M	Los, J. A. — a	V
b Pathological development of special organs		Shaner, R. F. — a	M
<i>Central nervous system</i>		Sinclair, J. G. — d	M
Holmdahl, D. E. — e	V	<i>Arterial and venous system</i>	
Delmas, A. — b	M	Reis, R. H. — a, b	M
Sensenig, E. C. — b, d	M	<i>Gonads and genital tracts</i>	
Sinclair, J. G. — d	M	Harrison, R. J. — b	M
<i>Cephalic ganglia</i>		Harrison, R. J. and	
Sensenig, E. C. — d	M	Harrison Matthews, L. — e	M
<i>Meninges</i>		<i>Hypophysis</i>	
Sensenig, E. C. — b	M	Blount, R. F. — b	J
<i>Sense organs</i>		4 Tumours	
Delmas, A. — b	M	Remotti, E. — b	
<i>Eye</i>		Barigozzi, C. — b	D
Castiglioni, Miss M. C. — b	D	El Shatoury, H. — b, e	D
Chase, H. B. — a	M	Hartung, E. W. — a	D
Giroud, A. — e	M	Holmdahl, D. E. — f	V
Gyllensten, L. J. W. — b	M	Barigozzi, C. — a	J
Lefebvres—Boisselot, Mrs J. — b	M	Lehmann, F. E. — e	J
<i>Skeleton</i>		O'Brien, J. P. — b	J
Jost, A. D. — d	M	Raunich, L. — f	J
Sensenig, E. C. — b, c	M	Rose, S. M. — a	J
<i>Lungs and larynx</i>		Spirito, A. — a	J
Gyllensten, L. J. W. — b	M	Weber, R. — b	J
<i>Heart and vascular system</i>		Hirata, A. A. and	
Stephan, F. — b	L	Schechtman, A. M. — a	L
Dankmeijer, J. and		De, P. and Mookerjee, S. — a	M
Snellen, H. A. — d	M	Hamburger, V. — b	M
Gyllensten, L. J. W. — b	M	Hirata, A. A. and	
		Schechtman, A. M. — a	M
		Koecke, U. — a	M
		Levi-Montalcini, Miss R. — b	M

VI. REGENERATION

SUBDIVISION

- 1 *Theoretical problems and general questions*
 - a Theoretical problems
 - b General questions
- 2 *General investigations, including total regeneration*
- 3 *Partial regeneration*
 - a General subjects
 - b Tail regeneration
 - c Limb regenerations
 - d Regeneration of special organ systems

(Cf. general subdivision p. 124—126)

CHARACTER OF INVESTIGATION

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

1 *Theoretical problems and general questions*a **Theoretical problems**b **General questions**

Lash, J. W. — a	
Brøndsted, H. V. — a, b	A, C
Goss, R. J. — a	J
Masuda, H. — b	J
Goss, R. J. — a	K
Koecke, U. — b	L

2 *General investigations, including total regeneration*

Weiss, P. A. — b	
Barth, L. G. — b	B
Lehmann, F. E. and Tardent, P. — d	B
Lehn, H. — a	B
Spratt, N. T., Jr — c	B
Taleporos, P. D. — a	B
Abeloos, M. — a	C
Bondi, C. — b	(5)C
Chandebois, Miss R. — a	C
Cresp, J. — a	C
Hubl, H. — b	(6)C
Hubl, H. — c	C
Kawakami, Mrs K. I. — a	C
Michon, J. — a	C
O'Brien, B. R. A. — a	C
Spratt, N. T., Jr — c	C
Kühn, A. — a	D
Needham, A. E. — a	D
Voy, A. — a	D
Barth, L. G. — b	H
Woerdeman, M. W. — c	V
Anton, H.-J. — a	J
Butler, E. G. — a	J
Grant, Ph. — a	J
Kuiper, Miss E. A. and Trampusch, H. A. L. — a	J
Weber, R. — a	J
Weisz, P. B. — c	J
Wey—Schué, Mrs M. — a	J

Abercrombie, M. and Santler, Miss J. E. — c M
 3 *Partial regeneration*

a **General subjects**

Hubl, H. — a	(4)C
Stephan—Dubois, Mrs F. — a, b	C
Wolff, Et.: Stephan—Dubois, Mrs F. and Lender, Th. — c	C
Lecamp, M. — a	J
Rose, S. M. — a	J
Trampusch, H. A. L. — b, d	J
Trampusch, H. A. L. and Vergroesen, A. J. — c	J
Weber, R. — c	J

b **Tail regeneration**

Horn, E. C. — b	I
Cohen, P. — a	J
Holtzer, K. — c	J
Lehmann, F. E. mit Mitarbeitern — b	(5)J
Raunich, L. — b	J

c **Limb regeneration**

Buser—Lahaye, Mrs J. — a	I
Butler, E. G. — a, b	J
Butler, E. G. — d	(4)J
Cohen, P. — a	J
Fremery, Miss R. de — b	J
Heath, H. D. — a	J
Ichikawa, M. — b	J
Mettetal, C. — a	J
Trampusch, H. A. L. and Visser, Miss P. J. — f	J
Yntema, C. L. — b	J

d **Regeneration of special organ systems**

<i>Nervous system</i>	
Baffoni, G. M. — a	D
Stefanelli, A. — b	I
Baffoni, G. M. — a	J
Stefanelli, A. — b	J, L
<i>Central nervous system</i>	
Liu, J. C. — a	

Gontcharoff, Miss M. — a	(4)C	<i>Eye-lens</i>	
Kollros, J. J. — d	J	Sato, T. — b	I
Piatt, J. — a	J	Pasquini, P. — a	(5)J
Littrell, J. L.; Windle, W. F. and Stuart, E. G. — a	L, M	Reyer, R. W. and Stone, L. S. — a	J
<i>Nerves</i>		Sato, T. — a	J
Leghissa, S. — c	V	Srivastava, M. D. L. — a	J
Leghissa, S. and Pasquini, P. — d	(5)J	Steinitz, H. and Stone, L. S. — c	(5)J
Edds, M. V., Jr — a	M	Woerdeman, M. W. — a	HV
<i>Eye</i>		<i>Alimentary tract</i>	
Gontcharoff, Miss M. — b	C	Sengel, Ph. J. — a	C
Lender, Th. — a	C	Wilson, J. W. — a	V
Steinitz, H. and Stone, L. S. — a, b	J	McMinn, R. M. H. — a	M
Steinitz, H. and Stone, L. S. — c	(6)J	<i>Gonads</i>	
Stone, L. S. — a, c	J	Vannini, E. — d	C
Amprino, R. M. — b	L	<i>Thyroid gland</i>	
		Reilly, T. D. — a	M

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. 124—126)

CHARACTER OF INVESTIGATION

(5) Chemical treatment

1 *Theoretical problems and
general questions*

Ubisch, L. v. — b

2 *General investigations*a **General subjects**

Hylbom, J. R. — a

Knight-Jones, E. W. — a

Henke, K. mit

Mitarbeitern — a

Knight-Jones, E. W. — a

Lüscher, M. — a

Piepho, H. — a

Sandison, Miss E. E. — a

Silén, L. K. P. — a

Harvey, Mrs E. Browne — c

Wheeler, A. J. — a

Oka, H. — c

Baxter, E. W. — a

Horn, E. C. — a

Castigli Pitotti, Mrs M. — b

Humphrey, R. R. — e

Kuiper, Miss E. A. and

Trampusch, H. A. L. — a

Leghissa, S. and

Pasquini, P. — d

b **Hormones and metamorphosis**

Bodenstein, D. — a, b

Geigy-Heese, R. — b

Highman, K. C. — a

Ichikawa, M. — a

G

G

H

I

I

J

J

J

(5)J

D

D

D

D

Lüscher, M. — b	D	<i>Ear</i>	
Yashika, K. — a	D	Witschi, E. — e	J
Kollros, J. J. — c	J	<i>Skull</i>	
Toivonen, S. I. — c	J	Michael, M. I. and Sedra, S. N. — a	J
c Metamorphosis of part of the organism		<i>Intestinal tract</i>	
Okazaki, Miss K. — a	G	Harder, W. — a	I
d Metamorphosis of special organ systems		Kollros, J. J. — c	(6)J
<i>Skin</i>		<i>Gonads</i>	
Kollros, J. J. — c	(6)J	Bier, K. — b	D
<i>Brain</i>		<i>Endocrine glands</i>	
Kollros, J. J. — e	J	Leghissa, S. — f	(6)J

„SUPPLY AND DEMAND” SERVICE

for Laboratory Animals

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.

A. LIST OF NAMES AND ADDRESSES

with species available and wanted

(geographical order)

AVAILABLE

WANTED

S. AFRICA

- 1.* EDUCA PRODUCTS (Pty.) Ltd. — P.O. Box 3538, CAPE TOWN, South Africa

Marine fauna and flora; Myriopoda, Scorpiones, Insecta, Mollusca (giant land snails); Reptilia and Amphibia

2. ZOOLOGICAL INSTITUTE, Univ. of Stellenbosch — STELLENBOSCH, South Africa

Peripatus; various South African Anura Embryos of Holocephali (preserved)

N. AMERICA

United States

3. DEPT OF EMBRYOLOGY, Div. of Biol., Calif. Inst. of Technol. — PASADENA 4, Cal., U.S.A.

Urechis caupo (Gephyrea, Annelida) (ripe animals, October to June, on special arrangements)

- 4.* TROPICAL HOBBYLAND — 1525 N.W. 27th Ave, MIAMI 35, Florida, U.S.A.

All kinds of animals from all countries on 60 days notice

- 5.* GENERAL BIOLOGICAL SUPPLY HOUSE — 761-763 E, 69th Place, CHICAGO 37, Ill., U.S.A.

6. DEPT OF EMBRYOLOGY, Carnegie Inst. of Washington — Wolfe and Madison Sts, BALTIMORE 5, Md, U.S.A.

Macaca mulata (throughout the year, not on exchange basis)

- 7*. CHASE WILD ANIMAL FARM — Lawson Road, EGYPT, Mass., U.S.A.

* = Biological Supply Houses, General Dealers, Zoological Collectors etc.

† = Transactions on exchange basis

AVAILABLE

8. MARINE BIOLOGICAL LABORATORY Supply Department — WOODS HOLE, Mass., U.S.A.
 9. DEPT OF BIOLOGY, Coll. of Arts and Sci., Univ. of Rochester — ROCHESTER 3, N.Y., U.S.A.

Pleurodeles Waltlii, *Xenopus laevis*
 (throughout the year)

10.* J. C. NICHOLLS, Jr., Zoological Collector — MURPHY, N.C., U.S.A.

Urodela (adults of all species, larvae and eggs of some species): *Ambystoma* (7 spec.), *Amphiuma* means, *Aneides aeneus*, *Cryptobranchus alleganiensis*, *Desmognathus* (8 spec.), *Eurycea* (6 spec.), *Gyrinophilus* (5 spec.), *Hemidactylium scutatum*, *Leurognathus* (2 spec.), *Manculus quadridigitatus*, *Necturus* (5 spec.), *Plethodon* (15 spec.), *Pseudotriton* (6 spec.), *Pseudobranchius* (2 spec.), *Siren* (2

11. DEPT OF ZOOLOGY, Oregon State College — CORVALLIS, Ore., U.S.A.

(„Available” continued)

spec.), *Triturus* (4 spec.); Anura (adults): *Bufo* (3 spec.), *Hyla* (4 spec.), *Pseudacris* (2 spec.), *Rana* (5 spec.), *Scaphiopus holbrooki*; Chiroptera (adults, most species throughout the year): *Corynorhinus macrotis*, *Eptesicus fuscus*, *Lasiurus borealis*, *Myotis* (6 spec.), *Pipistrellus subflavus*

Microcebus (the dwarf lemur of Madagascar, ♂ and ♀); any other Primates from the old and new worlds, except *Macacus* and *Rhesus* (live pregnant females)

ASIA

India

12.* VITA Limited — 29-31 Ropewalk St, Fort, BOMBAY, India

Turkey

13. INST. OF HISTOL. AND EMBRYOL., Veterinary College, Univ. of Ankara — ANKARA, Turkey

† *Physa syriaca* Germain (*Pulmonata*) (April to October)

Amphioxus (fertilized eggs, morula and gastrula stages)

EUROPE

Belgium

14.* REPTILAMPHIBIA (Felix Vandeveld) — Remerstraat, BAAL (Brabant), Belgium

Triturus alpestris, *Tr. cristatus*, *Tr. cristatus carnifex*, *Pleurodeles Waltlii*, *Xenopus laevis*; *Lacertilia*

(„Available” continued)

(eggs, young animals and adults) (all spec. throughout the year)

Denmark

15. LAB. OF ZOOPHYSIOLOGY, Univ. of Copenhagen — Juliane Mariesvej 32, COPENHAGEN Ø, Denmark

Tetrahymena piriformis (= *T. geileii*), Lwoff's strain (*Ciliata*)

AVAILABLE

WANTED

16. INST. FOR ALM. ZOOL., Univ. of Copenhagen — Universitetsparken 3, COPENHAGEN Ø, Denmark

Planaria vitta (a species which easily forms a clone for experimental purposes) (throughout the year)

France

17. DEP. D'EMBRYOLOGIE, Lab. d'Histol., Fac. de Méd. de Nancy — 31 Rue Lionnois, NANCY (Meurthe et Moselle), France

† *Triturus alpestris*, *Tr. helveticus*,

Tr. cristatus (March to July)

Ambystoma spp.

Germany

18. ZOOL. INSTITUT der Univ. Göttingen — Nikolausbergerweg 75, GÖTTINGEN, Deutschland

Ephestia kühniella Zeller (various races), *Galleria mellonella* L., *Carausius morosus* Br., *Habrobracon juglandis*, *Calliphora erythrocephala*,

(„Available” continued)

Tenebrio molitor (throughout the year, against payment of packing- and forwarding-charges)

19. ZOOL. INSTITUT der Univ. Köln — Kerpenerstr. 13, KÖLN-LINDENTHAL, Deutschland

† *Ambystoma mexicanum*, *Xenopus laevis* (throughout the year)

Pleurodeles Waltlii

20. INST. FÜR ANGEW. ZOOLOGIE der Univ. Würzburg — Röntgenring 10, WÜRZBURG, Deutschland

† *Formica rufa rufo-pratensis* and other Formicidae (♂♂, ♀♀ and worker-ants) (April to June)

♀♀ of *Atta* sp., *Acromyrmex* sp., *Dorylus* sp., and *Eciton* sp. (Formicidae).

Italy

21. IST. DI ZOOLOGIA, Univ. di Milano — Via Celoria 10, MILANO, Italy

† Various Amphibia (throughout the year)

22. IST. DI ZOOLOGIA E ANAT. COMP. — Via Loredan 6, PADOVA, Italy

† *Ambystoma mexicanum*, *Triturus cristatus*, *Triturus taeniatus*, *Bufo bufo*, *Rana dalmatina*, *Rana esculenta* (March to June)

23. IST. DI ZOOLOGIA, — Via Archirafi 18, PALERMO, Italy

† *Discoglossus pictus* (March to May)

Triturus alpestris, *Hynobius* sp.

Netherlands

24. PHYSIOL. LABORATORY, Municipal Univ. of Amsterdam — Rapenburgerstraat, AMSTERDAM-C., Holland

Locusta migratoria migratorioides, *Leptinotarsa decemlineata* (larvae and adults) (throughout the year)

Hirudo medicinalis; *Astacus fluviatilis*

AVAILABLE

25. ANAT.-EMBRYOL. INST., Municipal Univ. of Amsterdam — Mauritskade 61, AMSTERDAM-O., Holland

Ambystoma mexicanum (1—2 years old) (throughout the year) *Xenopus laevis* (\pm 1 year old)

26. VEZEL INSTITUUT T.N.O. — Mijnbouwstraat 16a, DELFT, Holland

Cavia Cobaya Marcor, *Mus musculus* (not on exchange basis)

27.* CENTRAAL PROEFDIEREN BEDRIJF T.N.O. — Biltstraat 172, UTRECHT, Holland

Mus musculus (some strains, inbred during many generations, and small numbers of several mutants, among which A^y = homozygous-lethal yellow, W = macrocytic anaemia, and hair-colour and eye-colour mutants), *Mus rattus* (two inbred strains and small numbers of hair-colour and eye-colour mutants), *Cricetus cricetus*

Sweden

28. ZOOLOGICAL INST., Uppsala Univ. — UPPSALA, Sweden

Ambystoma mexicanum (sexually mature)

United Kingdom

29. ANATOMY SCHOOL, Univ. of Cambridge — CAMBRIDGE, England

Oryctolagus cuniculus, *Mus rattus*, *Mus musculus*, *Cricetus cricetus* (throughout the year)

30. INST. OF ANIMAL GENETICS — West Mains Road, EDINBURGH 9, Scotland

† *Triturus cristatus*, *Tr. palmatus*, *Triturus alpestris*
Tr. vulgaris (April to June)

WANTED

(„Available” continued)

tus, *Cavia Cobaya* (3 strains), *Oryctolagus cuniculus* (4 strains, among which one strain inbred since 1937), *Mustela putorius* (small numbers), hybrid *Mustela putorius* x *Mustela putorius furo* (small numbers)

B. LIST OF SPECIES AVAILBLE

with numbers referring to List A.

(systematical order)

EVERTEBRATA

Evertebrates	1	ARTHROPODA	
		Scorpiones	1
		Myriopoda	1

PROTISTA

<i>Tetrahymena piriformis</i> (= <i>T. geleii</i>) (Lwoff's strain)	15	Insecta	
		Insects	1
		<i>Calliphora erythrocephala</i>	18
		<i>Carausius morosus</i> Br.	18
		<i>Ephestia kühniella</i> Zeller	18
		<i>Formica rufa rufo-pratensis</i>	20
		Formicidae	20
		<i>Galleria mellonella</i> L.	18
		<i>Habrobracon juglandis</i>	18

VERMES AND ONYCHOPHORA

<i>Peripatus</i>	2		
<i>Planaria vitta</i>	16		
<i>Urechis caupo</i>	3		

Leptinotarsa decemlineata	24	Triturus palmatus	30
Locusta migratoria migratorioides	24	Triturus taeniatus	22
Tenebrio molitor	18	Triturus vulgaris	30
MOLLUSCA		Anura	
Gastropoda (giant land snails)	1	Anurans (South African)	2
Physa syriaca Germain	13	Bufo (3 spec.)	10
AMPHIBIA		Bufo bufo	22
Amphibians	1, 21	Discoglossus pictus	23
Urodela		Hyla (4 spec.)	10
Ambystoma (7 spec.)	10	Pseudacris (2 spec.)	10
Ambystoma mexicanum	11, 14, 25	Rana (5 spec.)	10
Amphiuma means	10	Rana dalmatina	22
Aneides aeneus	10	Rana esculenta	22
Cryptobranchus alleganiensis	10	Scaphiopus holbrookii	10
Desmognathus (8 spec.)	10	Xenopus laevis	9, 14, 19
Eurycea (6 spec.)	10	REPTILIA	
Gyrinophilus (5 spec.)	10	Reptiles	1
Hemidactylium scutatum	10	Lacertilia	14
Leurognathus (2 spec.)	10	MAMMALIA	
Manculus quadridigitatus	10	Cavia Cobaya Marcor	26, 27
Necturus (5 spec.)	10	Corynorhinus macrotis	10
Plethodon (15 spec.)	10	Cricetus cricetus	27, 29
Pleurodeles Waltlii	9, 14	Eptesicus fuscus	10
Pseudotriton (6 spec.)	10	Lasiurus borealis	10
Pseudobranchius (2 spec.)	10	Macaca mulata	6
Siren (2 spec.)	10	Mus musculus	26, 27, 29
Triturus (4 spec.)	10	Mus rattus	27, 29
Triturus alpestris	14, 17	Mustela putorius	27
Triturus cristatus	14, 17, 22, 30	Mustela putorius x M. p. furo	27
Triturus crist. carnifex	14	Myotis (6 spec.)	10
Triturus helveticus	17	Oryctolagus cuniculus	27, 29
		Pipistrellus subflavus	10

C. LIST OF SPECIES WANTED

with numbers referring to List A.

(systematical order)

VERMES		PISCES	
Hirudo medicinalis	24	Holocephali	2
ARTHROPODA		AMPHIBIA	
Crustacea		Urodela	
Astacus fluviatilis	24	Ambystoma mexicanum	28
Insecta		Ambystoma spp.	17
Acromyrmex sp.	20	Hynobius sp.	23
Atta sp.	20	Pleurodeles Waltlii	19
Dorylus sp.	20	Triturus alpestris	23, 30
Eciton sp.	20	Anura	
CEPHALOCHORDATA		Xenopus laevis	25
Amphioxus	13	MAMMALIA	
		Primates	11
		Microcebus	11

General questions and announcements

I The Hubrecht Laboratory

In the year 1954 for the first time an international team work will be held at the Hubrecht Laboratory, in order to stimulate and strengthen international cooperation in a very direct and practical way by a working together for half a year on a general problem of great actuality and by exchanging personal experiences and opinions. Besides the concerted scientific approach to the general problem, the literature around the subject will be discussed critically in order to stimulate the reading of foreign literature and ameliorate the form and accuracy of scientific publication.

As a guarantee of a high scientific level, this team work is only open for postgraduates and exceptionally for very promising advanced students.

The following scientists will participate in this first team work to be held from February 1st till July 31st (in chronological order of application):

- 1) Miss V. M. McMurray (Phil.Dr), Univ. of Iowa, Iowa City, U.S.A.
- 2) D. J. McCallion (Phil.Dr), Acadia Univ., Wolfville, N.S., Canada
- 3) T. W. Glenister (Med.Dr), Charing Cross Hosp., Univ. of London,
England
- 4) M. Sala S.J. (Phil.Dr), Zool. Inst., Padova, Italy
- 5) R. Hori (M.Sc.), Biol. Inst., Toyama Univ., Japan
- 6) O. Hassa (Dr Vet.M.), Vet. Fac., Inst. Histol. & Embryol., Univ. of
Ankara, Turkey
- 7) Miss D. Harari (M.Sc.), Dept of Zool., Hebrew Univ., Jerusalem, Israel
- 8) K. Hara (M.Sc.), Biol. Inst., Nagoya Univ., Japan
- 9) Miss M. Th. C. van Egmond (M.Sc.), Zool. Inst., Univ. of Utrecht,
Netherlands
- 10) Miss A. G. Johnen (Phil.Dr), Zool. Inst., Univ. of Cologne, Germany

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

A Exchange of reprints; mailing list; etc.

We want to thank those colleagues who sent us reprints and request them to continue to do so. A more or less complete collection of reprints as part of the C.E.L. may be of great use both to guest workers at the Hubrecht Laboratory and to investigators abroad, for borrowing reprints and for information about literature. This aim can only be attained by receiving reprints from as many investigators as possible.

The Hubrecht Laboratory in its turn is distributing considerable numbers of reprints of its publications, but this distribution is of course bound to certain limits. Therefore only institutes and scientific teams can be placed on our mailing list. An exchange with individual investigators cannot unfortunately be upheld.

As mentioned in previous issues all reprints are classified upon receipt according to a subject-classification-system which corresponds to that used in the G.E.I.S. This makes our collection of reprints particularly well accessible.

May we remind you of our request to place in the C.E.L. those private collections of books and reprints which are not in use any more? In this way these collections become again accessible, just as is the case with material

donated to the Central Embryological Collection of slides and material of the Hubrecht Laboratory.

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 The Collection; Concise Catalogue; etc.

In the course of the last three years the collection has been entirely reorganized. The material has been arranged systematically and as much as possible according to the stageings of existing Normal Tables.

In the beginning of 1954 a Concise Catalogue of the collection will be published and distributed among all embryological institutes. This publication contains also a bibliography of Normal Tables and similar publications.

We trust that the accessibility of the collection has improved very much by the reorganization and will still be improved by the establishment of a detailed card index to be completed in the course of 1954. Until now few workers were aware of the extensive and often extremely rare embryological material which the collection contains.

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 in case 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 in case these surpass 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. In case 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 belonging to the historical collection cannot be lent out.
8. In case 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 him or her.

IV The Photographic Reproduction Service

The Hubrecht Laboratory is willing to make photographic reproductions of any papers which are present in the Central Embryological Library or can be borrowed from elsewhere. These reproductions will be either positive transparent microfilm prints (for use in a microfilm reading apparatus) or enlarged ordinary prints. The negatives will remain at the Hubrecht Laboratory.

We have been experimenting to find the most suitable materials and the best methods for reproduction. The result is the following price-list (prices per page, both text and plates):

positive film prints:	fl. 0.25 = \$ 0.07
7 × 10 cm. (box-camera size):	fl. 0.40 = \$ 0.10
13 × 18 cm. (ordinary page size):	fl. 0.50 = \$ 0.13
18 × 24 cm. (large page size):	fl. 0.65 = \$ 0.17

V The Normal Table of *Xenopus laevis*

Dr D. R. Newth (London) has undertaken the description of the development of muscles and skeleton of the pelvic girdle and hind limbs. Miss M. T. C. van Egmond (Utrecht) will study the development of the ear. Dr Bretscher (Bern) and Dr van de Kamer (Utrecht) have withdrawn from the project.

The present situation of the project is as follows:

We received the contributions of Dr Newth (London), Dr Smit (Stellenbosch), Dr Ryke (Potchefstroom), Prof. Raven (Utrecht), Dr Kollros (Iowa City) and Dr Nieuwkoop (Utrecht).

The contributions of Dr Millard (Cape Town), Prof. Ariëns Kappers (Groningen) and Dr Bijtel (Groningen) are nearly completed.

The subjects of the other collaborators are still in preparation; most of them make satisfactory progress.

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

In response to a wish expressed at the last meeting of the I.I.E., in Italy a national Embryological Group has been formed for the promotion of cooperation between the Italian workers in the field of embryology, both animal and vegetal. To this end, the Group will hold periodical meetings for the exchange of views and informations, and the discussion of researches in progress. Its first meeting was held in Bologna, March 30—31, 1953. After a business session, a number of informal communications were presented. It was decided that a second meeting shall be held in the autumn of 1953 in Naples. Prof. Pasquini, Bologna, is the Secretary of the Italian Embryological Group.

The Proceedings of the Symposium held at Utrecht on August 27th—29th, 1952 (*The biochemical and structural basis of morphogenesis*), will appear before the end of 1953.

Persons interested should apply to “Archives Néerlandaises de Zoologie”, c.o. the Librarian, Zoological Station, den Helder, Netherlands.

The Secretary, Chr. P. RAVEN

Reviews of recently published textbooks on Embryology

„LA RÉGÉNÉRATION ET LES PROBLÈMES DE LA MORPHOGÈNESE”

1932

by M. Abeloos
253 pp. with 57 figs in text

„Collection des actualités biologiques”
Gauthiers-Villars
Paris

This book, which was already published in 1932 without the appearance of a new edition, cannot, of course, be called up to date, but gives nevertheless a rather comprehensive survey of the phenomenon of regeneration in the animal kingdom and in plants. Although the theoretical aspects are extensively discussed, their classification is not always well defined; e.g. no clear distinction has been made between the processes of regulation in early development and the actual process of regeneration, processes which besides many similarities, differ from each other in several respects.

The subject has been treated chronologically, so that first the onset of regeneration and the formation of a regeneration blastema is discussed and then the aspects of growth and differentiation, the origin of polarity and its role in the process of regeneration, the segregation of the regeneration blastema and the anomalies in regeneration. At the end of each chapter rich bibliographical data are given.

It is our impression that in general the theoretical aspects had the main interest of the author, so that the facts form more or less material for illustration of certain points of view. The text has been more strongly subdivided than would have been necessary when the subject would have been approached primarily from the analytical side and the theoretical discussion would have been placed at the end of the book.

Notwithstanding the special form of approach, this book can still be recommended as an interesting guide into the wide field of regeneration and morphogenesis in general.

P. D. NIEUWKOOP

„EMBRYOLOGY”

1949

by L. G. Barth
330 pp. with 194 figs

The Dryden Press
New York
price: \$ 5.50

The author emphasizes the role of developmental processes in the entire life of the animal, so that a general knowledge of these processes is important for the premedical student, the college student or the biological student.

The various chapters have been mainly arranged chronologically; the first ones are therefore dealing with the oviposition, the structure of the unfertilized egg, the process of fertilization, cleavage, gastrulation and neurulation after which the later development has been treated according to organ systems. Special chapters have been inserted on the problem of field action, interrelationships of developing structures, regeneration, growth and its relation to hormones, and the problem of sex differentiation, while some special chapters have been devoted to the development of the frog egg, the development of the chick embryo and to mammalian development.

Each chapter has been treated very clearly and conveniently, and has been illustrated by simple but very instructive diagrams. The principle results of descriptive and experimental analysis and the existing theories have been properly discussed in each chapter.

The text has been very clearly written and is very concise and accurate, so that it is a pleasure to read this textbook, which has moreover been illustrated with very well reproduced photographs. It is a pity that some of the pictures of the development of the chick blastoderm and the mammalian embryo are too strongly reduced in size so that they are not so easily surveyable as the majority of the figures, while also some of the diagrams are somewhat too strongly schematized, which might interfere with a recognition of the natural relationships and topography. The chapter of suggested readings gives an extensive list of other textbooks to be referred to on each subject.

We will highly recommend this textbook for teaching purposes and as a source for an introduction into the field of embryology for the embryology student.

P. D. NIEUWKOOP

„MORPHOGENESIS, AN ESSAY ON DEVELOPMENT”

1952

by J. T. Bonner
296 pp. with 90 figs and 9 plates

Princeton University Press
Princeton, N.J.
price: \$ 5.—

The complexity of the living organism and the enormous variety in forms induces us to search after the main principles on which the organisation of

living material must be based. The author tries to show in this essay on development how at least three principles seem to play a role in the structural organization of living matter, viz. growth, morphogenetic movement and differentiation. External and internal limiting factors influence the individual roles of these processes in the development of structural patterns. Polarity and its determination also directs the achievement of structural pattern formation. This takes place inside a single cell as well as in cell aggregates, multicellular organisms and even in colonies of individuals. A comparison with the properties of crystals forms an interesting analogy as a possible bridge between the biological and the physico-chemical appreciation of the problems of life, which might lead according to the author to a "micro-structure theory". The text has been enriched with carefully selected, excellent illustrations, so that it is a pleasure to read this interesting essay. The bibliography includes unfortunately only a few references in foreign languages, which gives the wrong impression as if this approach of the problem of life is mainly made in the anglo-american part of the world.

P. D. NIEUWKOOP

„CYTOCHEMISTRY"
(A Critical Approach)
1953

by J. F. Danielli
139 pp. with 8 figs in text
and 12 photo-plates

John Wiley & Sons, Inc., New York
Chapman & Hall, Ltd., London
price: \$ 4.—

This book will by no means be called a textbook on cytochemistry, since according to the author "the body of agreed facts on cytochemistry is still completely insufficient"; it only represents a slightly enlarged version of a series of lectures given in 1949 at the University of Chicago.

In the introduction of this book the elementary techniques are treated critically in order to show their applicability and their restricted value. In the following chapters some special cytochemical problems and the techniques used in their analysis are discussed more in extenso, while at the end a future outlook in cytochemistry is given.

The author's critical approach to this young branch of biology might have great influence on its further growth, since it shows how great difficulties have to be overcome before reliable results can be obtained. We, nevertheless, think that the often still highly speculative working-hypotheses put forward in this book, do not always actually contribute to is in general high standard.

For the field of embryology where the biochemical studies have been up till now so unsuccessful by the undifferentiated character and the small size of the material concerned, cytochemistry might offer new and very important methods of analysis. Here it will, however, be a first condition in the analysis to proceed very critically step by step in order to prevent serious disappointments, and to avoid a further discredit of the field of embryology among the present and future young generations of scientists; put in the words of the author "the promise of the field of cytochemistry, however, will only be fulfilled if cytochemistry is used as a rigorous technique by an adequately trained staff".

We appreciate it very much that this first critical approach has been made, and warmly recommend this book to all embryologists.

P. D. NIEUWKOOP

Lillie's „DEVELOPMENT OF THE CHICK”
(An introduction to Embryology)
1952

Revised by H. L. Hamilton
624 pp. with 283 figs

Henry Holt and Co.
New York
price: \$ 8.50

After a short introduction in which some general biological theories are followed historically, the structure of the male and female germ cell is described.

The first part of the book deals with the early development till the end of the third day at which all organ systems have been laid down in their primitive form. The development of the egg in the ovary and its transport through tuba and uterus, the maturation and fertilization, the period of cleavage and the formation of a double-layered blastoderm till the stage at which the egg is normally laid, are discussed in extenso and illustrated with clear and original figures. Then the external development is pictured on the basis of the normal table of the chick, made by Hamburger and Hamilton, which has been fully reproduced in this textbook. This forms a very worthwhile extension of this new edition. The development of the primitive streak is described extensively on the basis of the most recent investigations, as well as the topography of the presumptive organ rudiments at the definitive primitive streak stage. The description of the development of the embryo during the formation of the somites and the outgrowth of amnion and allantois is illustrated with excellent pictures. Special attention is paid to the development of the nervous system and the sense organs, the alimentary tract and the various mesodermal structures.

After the third day the further development is treated according to organ systems; after the development of the external form and the embryonic membranes have been followed step by step all organs pass in review. The blood circulation is already briefly discussed in this chapter, but the colour plates, how attractive as pictured, only partly fulfil their purpose; the colours, red and blue, used respectively for the arterial and venous system, may be confusing since it is not clearly indicated that they do not coincide with the physiological condition of the blood for which they are normally also used.

The development of the nervous system is discussed in detail. It would be advisable to mention the staining techniques used in the reproduced histological preparations. This would show the less experienced students that these structures have to be made visible with a special technique.

The discussion of the various organ systems is done just as thoroughly as the description of the early development and offers a great richness of data illustrated with carefully selected or original figures, all of which are richly and clearly labelled.

This textbook which gives such a detailed and wide picture of the development of the chick, will be received with great sympathy by all embryologists, and offers a rich material for study to the beginning as well as to the more

advanced student while the experienced investigator may also frequently use it in order to verify certain facts or to compare special topographical and temporal relations. It would therefore be advisable to mention the literature references in the text with year of publication in order to facilitate a reading of the original literature. The list of references of the various chapters could then be combined, so that repetitions would be avoided.

The small deficiencies are only mentioned as possible suggestions for improvements of this in so many respects excellent textbook, with which we like to congratulate the author and also ourselves very cordially.

P. D. NIEUWKOOP

„AN OUTLINE OF GENERAL PHYSIOLOGY“
Third Edition, 1952

by L. V. Heilbrunn
818 p.p. with 123 figs

W. B. Saunders Co.
Philadelphia-London
price: \$ 10.50

It is pleasure to review this third edition, since the second edition, published in 1943, was gradually very much out of date by the rapid growth of this very extensive field of science. The author has put himself to a heavy task by bringing this new edition up to date. An enormous amount of literature had to be incorporated in the text, new problems had to be put forward. We must confess that we have great admiration for the form in which this enormous literature (4300 references) has been brought together in this textbook. The author nearly always succeeded in giving the main facts in a very concise form against the background of the fundamental problems of life and living material. The literature in foreign languages is richly represented. The references at the bottom of the pages may actually induce the students to read the original literature, so that this textbook may have also a high didactic value.

The subdivision of the extensive text, the simple and clear form of writing and the well chosen illustrations make this textbook to one of the most valuable sources of information and guides in this extensive field, so that we warmly recommend this excellent textbook, which the author so characteristically called an outline of general physiology, to all students in biology and medicine. We find that this book might not be lacking in any good laboratory library.

P. D. NIEUWKOOP

„THE PRENATAL ORIGIN OF BEHAVIOR“
1952

by D. Hooker
143 pp. with 6 figs and 4 tabs

Porter Lectures, Series 18
Univ. of Kansas Press
Lawrence (Kan.)
price: \$ 2.50

This book presents the subject matter treated by the author during his Porter Lectureship at the Kansas School of Medicine.

As an introduction, in Chapter I the author gives a "necessarily rather superficial review", as he himself states on page 6, of the development of

behaviour in fishes, amphibians, reptiles, birds and infrahuman mammals. However inexhaustive, this chapter is exceedingly readable and stimulating owing to the clear and at the same time critical account of the work of the various authors, as well as to the attention paid to theoretical backgrounds.

The main portion of the book is formed by a survey of the methods and results of the extensive and interesting researches carried out on human fetuses by the author and his co-workers at the Pittsburg School of Medicine, from 1932 onwards.

Whereas the first part of the book deals only with what the author calls "overt" (externally visible) behaviour, in Chapter III some interesting considerations are given to the relations of behaviour with the internal (morphological and physiological) organization of the mammalian embryo and fetus. The principal points dealt with on the basis of a discussion of recent researches in this field, are the following: Morphological development and function of embryonic muscle; Development of reflex pathways; Types of initial reflexes (with a discussion of Sherrington's concept of the "simple reflex" and a critical discussion of the concepts of Windle and his associates); Effects of anoxia and asphyxia; Intra-uterine respiration; Function of kidneys, alimentary tract and endocrine organs.

A fundamental question playing a role in the entire book is the controversy between the "Coghillian" concept of the development of behaviour (the "total pattern" idea) and the "Wandelian" viewpoint (the idea of "successive addition of simple reflexes"), which has in particular been applied to mammals. The author appears to be inclined towards the Coghillian line of thought, even in the case of mammals, where he bases himself largely on his own researches on the human fetus.

The book contains a reference list presenting the most important older and recent literature, an index of names, and a very useful subject index.

J. FABER

„PROBLEMS OF MORPHOGENESIS IN CILIATES“
(The kinetosomes in development, reproduction and evolution)
1950

by A. Lwoff
103 pp. with 32 figs

Volume of the Wiley Biol. Research series
John Wiley & Sons Inc., New York
Chapman & Hall, Ltd, London
price: \$ 3.50

The author directs our attention on a very fascinating problem of life, the problem of self-reproduction, so well known for chromosomes and their constituents. This property of self-reproduction is however not restricted to the nucleus but also exists in the protoplasm, viz. e.g. in the so called kinetosomes, so characteristic for Ciliates and other organisms. The kinetosomes do not form an irreversibly differentiated system, but can dedifferentiate into a plastic, self-reproducible system which is genetically controlled. One of their most interesting properties is their polyvalency. They can form cilia, flagellum, fibers, trichocysts, etc. These structures are rigid formations, but they can undergo dedifferentiation.

In terms of Weiss' concept of "molecular ecology" the author tries to substantiate this purely theoretical concept in the properties and behaviour

of these visible elements among Darlington's so called "undefined residues of heredity".

This monograph which does not pretend to be a treatise or to give an exhaustive survey of the literature, is very clearly written and illustrated with very suggestive figures and highly worth to be read by biologists in general.

P. D. NIEUWKOOP

„REGENERATION AND WOUND-HEALING”

1952

by A. E. Needham
152 pp. with 5 figs and 3 tabs

Methuen & Co Ltd
London
price: 8s. 6d

This small size book, forming one number in the series of monographs on biological subjects will only give a short illustrative introduction to this very extensive field of science which fascinated man already for many centuries. It will moreover form a key to the rich literature on this subject and will give a survey of the recent advances in its various aspects.

After a short sketch of the normal sequence of events in regeneration, much attention has been paid to the metabolic events during regeneration and to the causal analysis of regeneration, two aspects on which many advances have been made during the last decades.

After some smaller chapters on the rate of regeneration and on morphallaxis and related types of regeneration, finally the distribution of powers of regeneration in the animal kingdom has been briefly reviewed and its many-sided significance has been extensively discussed. The clearly written text and the very rich bibliographical data — there are more than 650 references quoted — makes this book to a very practical and convenient guide into the field of regeneration not only for school teachers but just as well for scientists. A larger number of illustrations would have undoubtedly improved the readability of the text, but would of course also have advanced the price of this booklet.

P. D. NIEUWKOOP

„TEXTBOOK OF HISTOLOGY”

Second Edition, 1953

by J. F. Nonidez and W. F. Windle
528 pp. with 326 illustrations, composed
of 214 drawings and diagrams and
233 photomicrographs

McGraw-Hill Book Co., Inc.
New York-Toronto-London
price: \$ 9.50

The author states in his preface that this textbook is for the beginner, so that it is not intended for a reference book since many details are intentionally lacking. This concise textbook which covers the histology and microscopic anatomy of the mammalian body, including man, is successfully used at the medical school in Philadelphia where medical education is, however, emphatically based upon direct contact with demonstration material in form of microscopic specimens and motion pictures. Much attention has, therefore, been paid in this textbook to the illustrations. These form indeed one of the most valuable aspects of this in several respects very elementary book.

The value of this textbook can only be determined in its planned educational system together with the special system of lecturing and particularly in combination with the extensive use of demonstration material and motion pictures, of which latter a rather extensive list has been added.

Short lists of references have been added at the end of each chapter; each reference with a brief review, which actually helps the student to find his way to the more detailed and extensive sources of information. A general shortcoming of this textbook is its rather static character; the dynamic aspects of histology and microscopical anatomy, in the form of e.g. the cyclic changes and the processes of transformation during normal growth and during regeneration have been insufficiently focussed.

P. D. NIEUWKOOP

„ENTWICKLUNGSPHYSIOLOGIE DER INSEKTEN“

1952

by O. Pflugfelder
332 pp. with 126 figs

Probleme der Biologie, Band 5
Geest & Portig K.-G.
Leipzig

This is the first attempt to give a survey of the entire field of insect development only with a more summary treatment of the action of external factors and the general physiology of the developing insect.

According to the author a rather extensive treatment of the morphogenetic processes is necessary for the right appreciation of the physiological aspects of development. The third chapter treats the organogenesis during embryogenesis which has been brought together in one textbook.

The subject has been treated chronologically starting with the primitive development. The morphological aspects are discussed first, after which the physiological problems are given according to the regulative, the partly regulative and partly determinative, and the pronounced determinative types of development. The third chapter treats the organogenesis during embryological and post-embryological stages, while the last chapter of this book is devoted to the extensive field of hormonal actions during post-embryonic life.

We feel that this attempt to bring together the morphological and physiological aspects of development is of very great importance in order to bridge the gap between these often separated fields of research, in order to understand that form and function are a unity which cannot be split into separate parts.

The concise text of this book which is so clearly written, has been illustrated with a large number of clear figures, which makes it even more easily readable.

The very rich bibliography forms an excellent guide in this very extensive literature, so that we can highly recommend this textbook to advanced students. It moreover forms an excellent source for literature for embryologists interested in problems of morphogenesis and developmental physiology of insects.

We, therefore, hope that this German textbook might also find its way in many countries of other continents.

P. D. NIEUWKOOP

„ENTWICKLUNGSPHYSIOLOGIE DER TIERE“

1953

bij F. Seidel

- I Ei und Furchung (126 pp. with
29 figs in text)
- II Körpergrundgestalt und Organ-
bildung (159 pp. with 42 figs
in text)

Sammlung Göschen,
Band 1162 and 1163
Walter de Gruyter & Co.
Berlin
pocket-book size
price: D.M. 2.40

The author gives a general survey of the causal analysis of the animal development in a very concise form, and synthesizes the facts obtained in the various groups of the animal kingdom to more general concepts.

Mostly, classical experiments are taken as examples, the most recent development not always including. The discussion is mainly restricted to the more principal facts, omitting the finer details and controversies, so that this pocket book actually forms only an introduction into the field of experimental embryology. As such it is very successful and very useful for students interested in this field of science; the more since it has been very clearly written, and since these editions are very cheap, so that they are within the means of every student.

A fortunate idea forms the concise chapter : explanation of terms and concepts. The replacement of the normal list of references by a very short list of handbooks and review articles as keys to the literature has the disadvantage that students are not directly stimulated to read the original literature. It might have been better when the systematical register would have been replaced by an extensive list of references.

P. D. NIEUWKOOP

„THE FROG, ITS REPRODUCTION AND DEVELOPMENT“

1951

by R. Rugh

336 pp. with circa 167 figs

The Blackiston Cy, Inc.
New York
price: \$ 4.25

In the preface the author clearly justifies the appearance of an extensive study on the normal development of a single form as an indispensable base for an experimental approach in embryology. The American Leopard frog, *Rana pipiens*, has been chosen since so much work in experimental embryology, physiology, cytology and genetics has and can be done on this laboratory animal.

After a brief historical survey of the development of the field of science called embryology, some basic theories in embryology are discussed.

The development of the male and female germ cells, their maturation and subsequent fertilization are extensively described and illustrated with many figures and photographs. Then blastulation and gastrulation are extensively treated, including many data on vital staining etc., after which neurulation and early organogeny are discussed from a large number of diagrams and figures. In the same style the major developmental changes in the early embryo and larva are described.

The second part of the book deals with the development of the individual

organ systems as derivatives of special germ layers so that the attention of the reader is focussed on the development of each organ system.

The large number of illustrations markedly facilitates the reading of the text which is moreover written in a semi-popular form so that this book is of great value for teaching purposes. For the embryology student it moreover gives many valuable data on each successive phase of development so that we can recommend this book to a wide circle of readers.

The extensive glossary of embryological terms at the end of the book forms a very valuable chapter and may serve as an example for other textbooks. The fairly extensive bibliography for frog embryology finally facilitates and stimulates the reading of the original literature.

It is a pity that some of the diagrams, e.g. in the chapter on early organogeny, are too strongly simplified, which may lead to confusion at certain points. It might moreover be preferable to number the figures so that one can refer more easily to them in other parts of the text. These remarks, however, form only a suggestion for improvement of a new edition. This textbook as a total forms a very valuable unit in the series of monographs on development of individual forms such as Lillie's *Development of the chick*, etc.

P. D. NIEUWKOOP

„ENTWICKLUNGSPHYSIOLOGIE“

1952

by L. v. Ubisch
85 pp. with 127 figs

F. W. Peters
Berlin

This small monograph only forms an introduction into the field of developmental physiology and gives only some principle facts and problems against the background of the authors vision on development given in the later chapters of this booklet. A number of characteristic forms is chosen among invertebrates and vertebrates, forms on which the problem of "determinative" and "undeterminative" development is illustrated, after which the classical concepts of determination, organization and induction are discussed. After a discussion of Child's gradient-theory and the rôle of special cell-constituents, the author emphasizes the significance of the colloidal state of the so called "ground-plasm". This ground-plasm should be under the influence of three gradient systems along the three axes of the embryo. The genes operate in this three-dimensional gradient-system of the plasm colloids and activate the development of special organ-systems in a mutual harmonic topography and proportion.

Although the train of thought of the author is quite interesting, the hypothesis to which it leads is very general and rather simplistic. Too few basic facts are, however, known than that general theories might bring us much further to an understanding of the basic principles of life.

P. D. NIEUWKOOP

„ELEMENTS OF CHORDATE ANATOMY“

1953

by Ch. K. Weichert
451 pp. with 256 figs in text

McGraw-Hill Book Comp., Inc.
New York-Toronto-London
price: \$ 5.50

This text book is a condensation of "Anatomy of the Chordates" by the

same author, published in 1951 and has especially been designed to serve as a text in one-semester courses for premedical students. This book will only offer the elementary principles of vertebrate anatomy. A companion volume entitled "Representative Chordates" has been prepared for use in the practical one-semester courses.

The discussion and characterization of the successive systematical groups of the phylum chordates which is lacking in the majority of textbooks on comparative anatomy forms a great advantage of this book. Besides the many other good aspects, such as the clearly written and consistently subdivided text and the many easily surveyable, well labelled figures which illustrate the text very conveniently, we feel that many comparative anatomical problems should be markedly elucidated when more attention should have been paid to the development of the various organ systems. This is particularly striking for the chapters on the reproductive system where the bisexual character of its anlage has not been focussed, the heart, the internal ear and other organ systems. The total lack of references does not stimulate the students to supplemental reading.

P. D. NIEUWKOOP

MBL WHOI LIBRARY



WH 1862 Q

