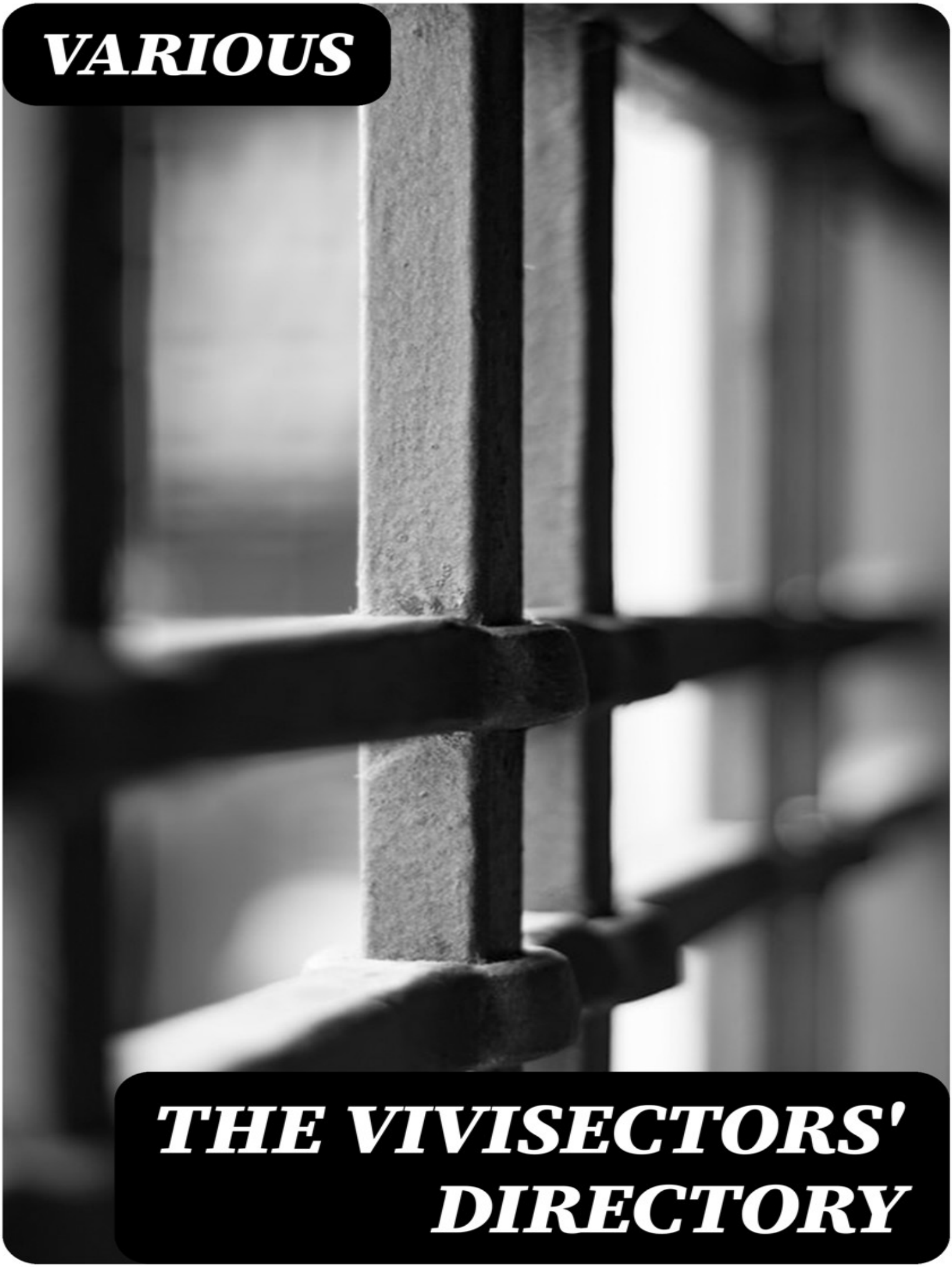
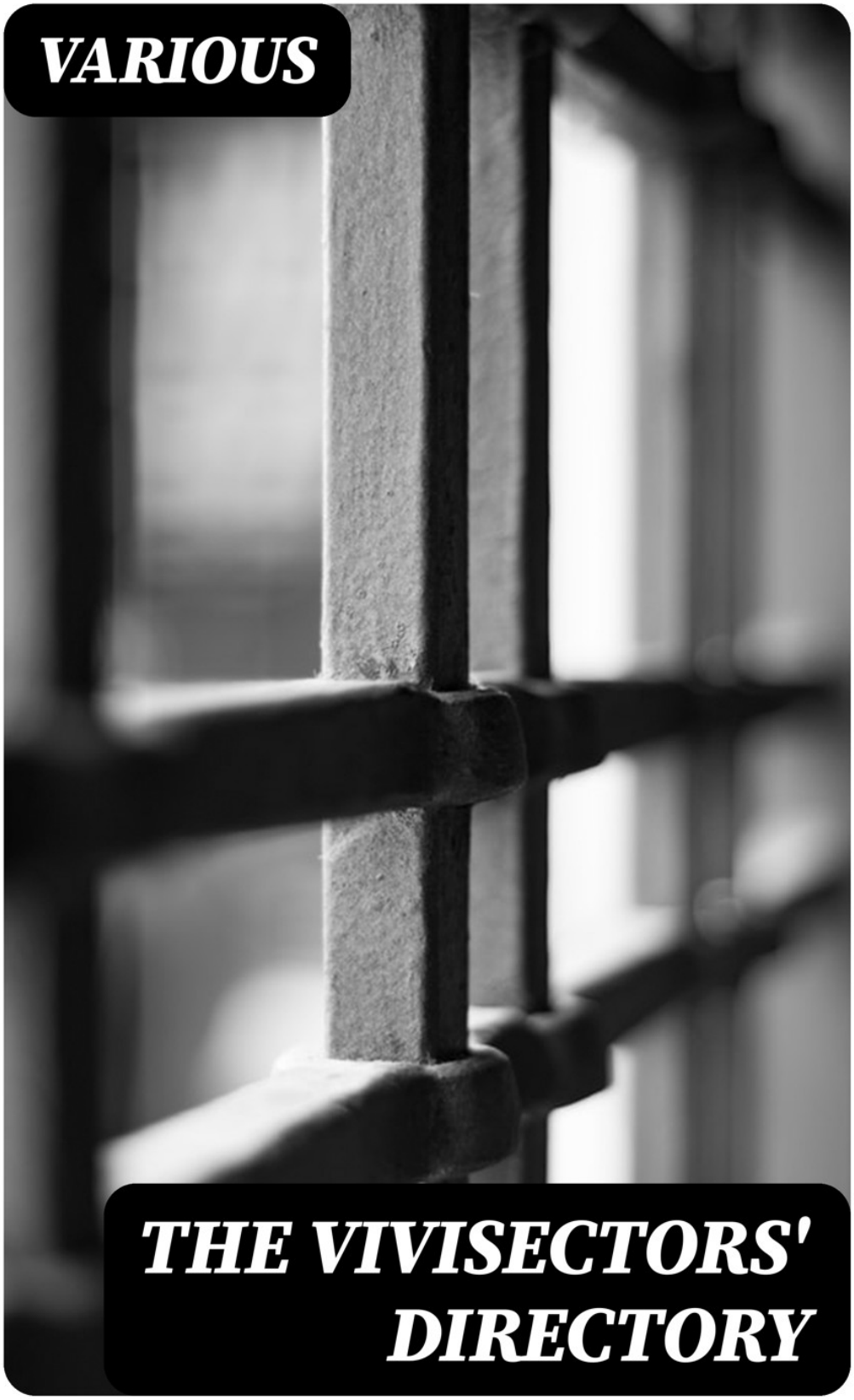

VARIOUS
THE VIVISECTORS' DIRECTORY


VARIOUS
THE VIVISECTORS' DIRECTORY

Various

The Vivisectors' Directory

Being a list of the licensed vivisectors in the United Kingdom, together with the leading physiologists in foreign laboratories

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Table of Contents

PREFACE.
THE VIVISECTORS' DIRECTORY.
ADDENDUM.

PREFACE.

Table of Contents

It was reported at the time of the Franco-German war that the Prussian soldiers profited much by their general acquaintance with the geography of France, and by the possession of convenient pocket maps furnished to them of the invaded districts.

To supply the combatants in the Anti-Vivisection Crusade with some such knowledge, and such *cartes du pays* of the physiologists' ground, was the original purpose of the *Vivisectors' Directory*, as prepared for THE ZOOPHILIST. It was recognised by those engaged in the thick of the fight against scientific cruelty that it was impossible to retain in the memory the names of all, even of the most notorious Vivisectors, or to attach to them their particular class of experiments; nor, in the case of English physiologists, was it practicable to recall without continual reference to the whole series of Parliamentary Returns what were the Licenses and Certificates wherewith they have been annually provided. These facts,—so often needed in controversy,—it was proposed to marshal in the compendious form of a *Directory*, so that each Zoophilist possessed of a copy should be enabled at a moment's notice to tell in which province of the "*doloroso regno*" of Research each Vivisector might be found, what were his titles and address, and the books he had published; and (if he were a British subject) how many Licenses and Certificates he had received.

It is hoped that this original purpose of the *Directory* has been fairly fulfilled, and that Anti-vivisectionists will universally find it to be a very serviceable book of reference. It is not pretended that it is a perfect work, that the names of all the Vivisectors in Europe have been ascertained, or their worst deeds always ferreted out. Great pains have been taken to make the list thus complete, and several able agents have been employed for the purpose abroad as well as at home, under the editor's supervision. But years would have been needed for the exhaustive completion of the task, and the publication would have been indefinitely delayed. As it now appears, the *Directory* presents (it is confidently believed) a mass of reliable information in a convenient form, and at a moment when it is urgently needed for use in our sorrowful controversy.

But even while this first purpose of the *Directory* was being patiently carried out, it became obvious to those concerned that the work would fulfil at the same time another and still more important end. As name after name appeared for registration, and cruel experiment followed cruel experiment in endless variety, the utility of the *Directory* as affording evidence of the extent to which Vivisection is now carried on in Europe, became revealed. No doubt or dispute, it was obvious, could possibly attach to *this* testimony. There can be no question here of that "exaggeration" or those "sensational appeals" wherewith our opponents are wont to charge us. There can be no "sensational appeal" in a Dictionary; nay, care has been taken that there should not be one single epithet editorially applied to any experiment recorded from first to last. The

Directory is a mere dry Register, like an ordinary Medical or Clerical Directory of names, dates, places, degrees, books, pamphlets, licenses, and certificates. Only some *verbatim* quotations are added, with exact references to chapter and verse. If these should happen to convey most damning accusations, it is the Vivisectors themselves who have registered their own offences.

But it is a sickening revelation, even to those who have for years back been steeped to the lips in this Dead Sea literature. Few or none will have realized, we believe, till they look into this Directory as a whole, how infinitely varied have been the devices of the tormentors of animals, how relentless the diligence of these explorers of living tissues, these harpists whose instruments are quivering nerves, these diggers into living brains who leave them “like lately-hoed potato fields.” Not the poor humble frogs alone, of which we are wont to hear, but every class of sensitive and intelligent animal seems to be in turn the victim of pitiless experiment,—the commonest of all being the most loving servants of mankind. Not one organ of their beautiful frames but has been chosen for the explorations of a dozen enquirers, and mangled, burned, torn out, or inoculated with some horrible disease. The well-known maladies which result from human drunkenness and vice have been cunningly conveyed to dogs and apes. The breasts of mother brutes nursing their young have been cut off, and the mutilated creatures dropped back to die among their little ones whom they can no longer feed. Pregnant animals have been continually cut open. An Italian physiologist (Mosso) injects putrified human brains into animals. The

eyes are chosen as the special seats for inoculation, because, through the transparent body the processes of disease can be most easily watched. Balbiani varnished the skins of dogs, so that after long hours in which all exudation was stopped, the creatures expired—stewed, as it were, in their own blackened blood. Claude Bernard and Alfred Richet baked them alive in stoves constructed for that hideous purpose. Paul Bert and Cyon place them under atmospheric pressures till a dog comes out stiffened all over "like a piece of wood." Brown-Séquard and Brondgeest cut the spinal cords of guinea-pigs and rabbits, and Chauveau opens the spinal canal of horses and irritates the roots of the nerves. Nasse injects salt into the veins, and Watson Cheyne injects micrococci into the eyes. Blondlot and Heidenhain establish fistulas. Aufrecht endeavours to create kidney disease, and Köbner leprosy. Bacchi and Donders pour acetic acid on the nerves of the eyes. Audigé, Colin, Miss Adams, Gréhaut, and Gscheidlen, experiment on various animals with mineral and vegetable poisons; and Fayrer, Brunton, and Lacerda with that of snakes. The bile ducts of dogs and cats are ligatured by Wickham Legg and Rutherford. Skulls of monkeys and dogs are opened and the brains mutilated and stimulated with electricity by Ferrier, Yeo, Horsley, Schäfer, Goltz, Hitzig, Fritsch, Golgi, Grützner, Günther Leyden, Hermann, Lovèn, Munk, Longet, Luchsinger, Ott, and Vulpian; and the stomach, heart, liver and spleen, are cut into and diversely dissected alive by a whole host of physiologists, Roy, Gaskell, Lépine, Pellacani, Cohnheim, Marey, Martin, Colasanti, Panum, Moleschott, and Flint.

When it is remembered that, according to Claude Bernard in his latest work, we may “take for granted that experiments, when not otherwise described, are performed on curarized dogs”—that is, on highly sensitive creatures, placed in a condition which he himself describes as “accompanied by the most atrocious suffering which the imagination of man can conceive,”—we have before us in this small *Directory* a record of agonies before which the brain grows dizzy and the heart sick. That any man not utterly science-hardened can contemplate them with indifference, and refuse to lift his voice against them, is difficult to understand. He who will look through this little book and then “pass by on the other side,” might, one would think, have strolled round Nero’s martyr-lighted gardens and turned unmoved away.

F. P. C.

THE VIVISECTORS’ DIRECTORY.

Table of Contents

Abraham, Phineas S., 5, Clare Street, Dublin. M.A.T.C. Dub.; B. Sc. Loud.; F.R.C.S.E. 1880; (St. Barthol. Lond.; T.C. Dub. and Paris); 1st Sen. Mod. and Large Gold Medallist in Nat. Sci. and Mod. in Exper. Sci., T.C. Dub., 1871; Hon. Sec. Dub. Biol. Club., Contrib. to Proc. Zool. Socs., Lond. and Paris, &c.

Held a License for Vivisection in Physiological Lecture Room of Royal College of Surgeons, Dublin, in 1880.

Adams, Hope Bridges (Miss), Student Bedford College, studied medicine at Leipzig under Professors Ludwig and W. His. Graduated L.K.Q.C.P. Ireland and M.D. Zurich. Married to Dr. Walthers. Settled in practice at Frankfort. Leipzig Pathological Institute.

"Miss Bridges Adams made a number of experiments on the secretion of hæmoglobin in the Pathological Institute at Leipzig, on rabbits and dogs, which she poisoned slowly with chlorate of potassium and other similar substances, by which the kidneys, bladder, and spleen were morbidly affected. The animals vomited, a deposit collected in the bladder, and they died after sufferings more or less prolonged. Dr. Lebedoff (of St. Petersburg), who is continuing the investigations, affirms that she attained no definite result and that the experiments do not give one the impression of having been carried out with thoroughness."—*Thier u. Menschen Freund*, No. 7, 1883.

Albertoni (Prof.), Materia Medica R. Univ. Genoa. Substitute in Chair of Physiology in absence of Prof. Cerradini, Senior Physician Hospital for Chronic Diseases.

Author of "Influenza del cervello nella produzione dell' epilessia; che cosa avvenga del sangue nella trasfusione;" and joint author with Dr. Bufalini: "Sull' aumento delle pulsazioni cardiache dietro l'eccitazione delle prime radici dorsali;" and with Dr. F. Lussana, of "Sull' alcool, ricerche sperimentali"; 3rd art. in "Lo sperimentale," 1874.

Experiments in transfusion of blood, tried successfully on dogs, subsequently on three human patients who died, the transfusion having "hastened the fatal issue."—*Archiv. Ital.*,

Tome 2, p. 180. Repeated experiments of Chirone and Curci on apes, arriving at opposite conclusions.

Albini, Commendatore Giuseppe, Palazzo Dini, Via Museo Nazionale, Naples. Oculist. Prof. Histology, Anatomy and Physiology. Director of the Institute of Physiology in Royal University, Naples. Vice-President of the Academy of Physical and Mathematical Science. President of the Neapolitan Branch of Italian Alpine Club.

Author of “Ueber das Gift der Salamander Maculata,” Vienna, 1858; “Sull’ azione aspirante del cuore,” Naples, 1862; “Sul mecanismo della deglutizione,” 1863; “Guarigione di una Fistola gastrica in un cane,” 1867; “Guida allo studio della Fisiologia normale e sperimentale,” 1870; “Rendiconto dell’ Istituto fisiologico di Parma,” Parma, 1860; “Rendiconto dell’ Istituto fisiologico di Napoli,” 1860-64.

Anderson, Richard John, 58, Wellington Park, Belfast. M.A. Qu. Univ. Irel. (1st Hons. in Exper. Science, Gold Medal and Prize), 1870; B.A. (2nd Hons. and Prize in Exper. Science), 1869; M.D. (1st Hons., Gold Medal and Prize) 1872; M.R.C.S. (Eng., and L.M.) 1872; (Belfast, St. Barthol. London, Leipzig, Paris, and Heidelberg); Demonstrator of Anat. Qu. Coll. Belfast; Prof. of Zoology, Galway, 1884.

Contributed “Abnormal Arrangement of Peritoneum,” Journ. Anat. and Physiol., 1878; “The Presence of an Astragalo-schapoid Bone in Man,” *Ibid.*, 1880; “Respiratory Excitation and Depression,” Dub. Journ. Med. Science, 1880; and other Contributions to Journ. Anat. and Physiol., Dub. Journ. Med. Science, Virchow’s Archiv., and Brit. Med. Journ.

Held a License for Vivisection at the Physiological Laboratory, Queen's College, Belfast, in 1879-80-81-82-83. No Experiments returned in 1882-83.

Arloing, (Prof.) Prof. Anat. and Physiol, and of practical experiments in the École Nationale Vétérinaire of Lyons.

Aufrecht, (Dr.), Magdeburg.

"Experiments in the artificial induction of diseases of the kidneys. Used formerly to tie the ureter, has now injected *Cantharides* under the skin of rabbits, and produced the disease in all its forms."—*Med. Centralblatt*, No. 47, 1882.

Aubert, Hermann. Prof. Rostock University.

Author of "Physiologie der Netzhaut," Breslau, 1865; jointly with Gustav Roever, of Rostock, of "Ueber de Vasomotorischen Wirkungen des nervus vagus, laryngicus und sympathicus," Pflüger's *Archiv.*, Vol. II., p. 211. This essay describes experiments on dogs, cats, rabbits, and lambs.

"Constructor of a 'handy apparatus' for bringing animals into a state of asphyxia in air attenuated or deprived of oxygen."—Pflüger's *Archiv.*, 27, p. 566.

Audigé, R. H. T., 26, Avenue Bosquet, Paris. M.D., Paris, 1874.

Author of Thèse "Recherches expérimentales sur le spasme des voies biliaires," Paris.

"Alcohols administered in a slow and continuous manner were found to give rise to various disorders. Vomiting of biliary matter and glairy mucus together with more or less severe diarrhœa were observed. Difficulty of breathing, muscular tremor, and even paresis of the hinder extremities were also recorded. Examination after death revealed

congestive changes of the alimentary canal and of the liver, but no hepatic cirrhosis. Well-marked hyperæmia of the lungs and atheroma of the large vessels, especially the aorta were also detected.... Absinthe when given to the animals gave rise to great excitement with muscular contracture and cutaneous hyperæsthesia."—*Lancet*, June 30th, 1883.

"... We must not overlook the extreme sensitiveness of the mucous membrane which lines the ducts; we have just seen that an injection into the biliary ducts of water mixed with a small quantity of acetic acid produces in dogs acute pain."—*Collection de Thèses pour le Doctorat*, Paris, 1874, p. 27.

The biliary ducts of a curarised dog dissected out and then excited by electricity so as to produce spasms.—*Ibid.*

Axenfeld, Alexandre, Camerino, Italy. Prof. pathologie médicale, Med. Faculty, Paris.

Contributed to "Dictionnaire Encyclopédique des Sciences Médicales," Paris, 1880.

Bacchi, M. E. M.D., Turin, Laureate Univ., Turin; M.D. Paris, 1874; Prof. Ophthalmology, Medical Faculty, Paris.

Author of "Contribution à l'étude de l'étiologie de la sclérochoroïdite postérieure, Paris, 1874."

This Thesis also describes experiments in which neuralgic pains are produced by the application of electricity to the orbital nerves of a rabbit—the torture being continued for from half-an-hour to an hour daily from September 14th to October 30th.

Exper. IV. "I exposed the upper orbital nerve on the left side of another rabbit, and then I poured on to it a few drops

of a strong solution of acetic acid. The pain was so violent that the animal emitted heartrending shrieks and writhed in the throes of a violent agony."—*Collection de Thèse pour le Doctorat*, Paris, 1874, pp. 59 and 61.

Baginsky, Benno. M.D. Berlin, 1872.

Contrib. "Über die Folgen der Drucksteigerung in der Paukenhöhle," Virchow's Archiv., 1881.

Made experiments on dogs in the Veterinary School of Berlin.

Balbiani (Prof.). Prof. Embryology, Coll. de France.

Made experiments by varnishing the skins of animals, especially rabbits and guinea-pigs.—*Traité de physiologie, Béclard*, Paris, 1880, Vol. I., p. 495. Chiefly known as an Embryologist.

Balfour, Francis Maitland. B. 1851, d. 1882. (Killed by a fall on the Glaciers of Courmayeur Alps). Educated at Harrow and Cambridge, where he graduated subsequently; he studied at the Stazione Zoologica at Naples, under Dr. Dohrn. Was Lecturer on Natural Science, Embryology, and Comparative Anatomy at Trinity College, Cambridge. Fell. Roy. Soc. 1878; Mem. Counc. Roy. Soc.; Pres. Cambridge Philos. Soc. 1881; LL.D. Glasgow 1880. The Professorship of Animal Morphology at Cambridge was created specially for him. Was for several years one of the editors of the *Quarterly Journal of Microscopic Science*. A Balfour Fund has been raised to found memorial at Cambridge.

Balfour, John Hutton, Junr., East Brighton Crescent, Portobello, M.B., Edin. and C.M., 1881.

Held a License for Vivisection at University College, Edinburgh, Materia Medica Department, in 1882, and

Certificate for Experiments without Anæsthetics, same year.

Barker, John, M.D. Deceased, 1879. M.D. Dublin, 1863; M.B. 1846, B.A.; F.R.C.S.I. 1863; L. 1846; (T.C. Dublin); Exam. in Anat. and Surg. and Cur. Mus. M.R.C.S.I.; M.R.I.A.; formerly Demonstrator of Anatomy, Univ. Dublin.

Author of Cryptogamic Part in “Steel’s Handbook of Field Botany,” and other papers.

Held a License for Vivisection at Royal College of Surgeons, Dublin Physiological Laboratory and Lecture Room, 1878-79. No experiments returned.

Barlow, John, 85, Kelvingrove Street, Glasgow. M.D. Edin., 1879; M.B. and C.M. 1875; M.R.C.S. Eng., 1874; F.F.P.S. Glasg., 1881; (Anderson Univ., Univs. Glasg. and Edin.); Prof. of Inst. of Med. Anderson’s Coll. Glasg.; late Muirhead Demonst. of Physiol., Univ. Glasg.; House Surg. Glasg. Roy. Infirm.

Contributed “Mode of Demonstrating Pflüger’s Law of Contraction,” Jour. Anat. and Physiol., Vol. XII.; “Physiological Action of Ozonised Air,” *Ibid.*, Vol. XIII.

Held a License for Vivisection at University of Glasgow Physiological Laboratory and Class Room in 1878-79-80-83. Certificate in 1878 and 1879 for Illustrations of Lectures, for Experiments without Anæsthetics, and for Testing previous Discoveries; in 1880 for Illustrations of Lectures and for Experiments without Anæsthetics; and in 1883 for Illustrations of Lectures. No Experiments returned in 1883.

Bartholow, Robert. Cincinnati. M.D.

Author of “A Practical Treatise on Materia Medica and Therapeutics,” New York, 1878.

Experiments on the action of Gelsemium sempervirens.

Battistini, Attilio. M.D. University of Rome.

Beatson, George Thomas, 2, Royal Crescent, Glasgow. B.A. Cantab., 1870; M.D. Edin., 1878; C.M., 1874; L.R.C.S. Edin., 1874 (Edin. Univ.); formerly Sen. Pres. Roy. Med. Soc. Edin.

Contributed “On the causes of Expense in the Antiseptic Treatment of Wounds,” Glasg. Med. Journ., 1879; “Origin and Composition of Bodies found in Compound Ganglia,” Journ. Anat. and Physiol., Vol. XIII.; “Diagnosis of Malignant Abdominal Tumours,” Glasg. Med. Journ., 1879.

Held a License for Vivisection at University Glasgow Physiological Laboratory in 1879 and Certificate dispensing with obligation to kill before recovery from Anæsthetics.

Beaunis, Henri Etienne. Prof, of Physiology, Med. Faculty, Nancy.

Author of “Nouveaux éléments de Physiologie humaine,” Paris, 1876; joint author with M. Bouchard of “Éléments d’Anatomie descriptive et d’Embryologie,” 1873.

Devotes several chapters of his work on Physiology to a detail of the necessary arrangements of the physiological laboratory, and particularly recommends students to study physiology by vivisecting frogs, as being more readily procured than other animals, and easily held by pinning them on a piece of cork.

Béclard, Jules, au Siége de l’Académie, 39, Rue des Saints-Pères. B. 1818; M.D. Paris, 1842; Professor of Physiology Med. Faculty, Paris; Perpetual Sec. Acad. of Medicine, &c.

Author of “Traité élémentaire de Physiologie,” Paris, 1880; “Expériences constatant l’électricité du sang chez les

animaux vivants," Metz, 1863. Contributed to "Dictionnaire Encyclopédique des Sciences Médicales," Paris, 1880.

"When by the aid of appropriate means, we suppress in animals the cutaneous evaporation, and thus absolutely prevent the discharge of water, vapour, and carbonic acid, grave disorders are set up little by little, terminating in death. In order thus to suppress the functions of the skin, it is advisable to lay bare, by means of shaving closely, the whole of the skin of a dog, sheep, rabbit, or horse, and to cover the exposed surface with a thick drying varnish. Animals thus treated succumb at the expiration of various periods, but they rarely survive twelve hours. After death the tissues and organs are found gorged with black blood. It is probable that the accumulated carbonic acid has brought on slow asphyxia. When the pulmonary outlet is sealed up, the asphyxia is rapid."—*Traité de Physiologie*, Béclard, Paris, 1880, Vol. I., p. 495.

Béclard, Pierre Augustin. B. 1785, d. 1825. Assistant to M. Roux, 1809; Prosector Med. Faculty Paris, 1811; Prof. Anat., 1818; Mem. Acad. of Med., 1820.

Made experiments jointly with Legallois on the Act of Vomiting.—*Traité de Physiologie*, Béclard, Paris, 1880, Vol. I., p. 62.

Author of "Additions à l'Anatomie générale de X. Bichat," Paris, 1821; "Éléments d'Anatomie générale," Paris, 1823; Traité Élémentaire de Physiologie, Septième Edition, Part I., Paris, 1880; Part II., 1884.

Bégin, Louis Jaques. B. at Liège, 1793; d. 1859. Prof. Physiol., Military Gymnasium, Metz, 1821; M.D. Strasbourg, 1823; Prof. Anat., Physiol. and Surgery, Med. Faculty,

Strasbourg; Pres. Acad. of Med., Paris, 1847; Mem. of numerous foreign learned societies.

Author of “Traité de Physiologie pathologique,” 1828, &c.; contributed Art. “Vomissement,” “Dictionnaire Encyclopédique des Sciences Médicales.”

Behrend, F. Student, Berlin.

Experiments on rabbits under Dr. Lewin on the chemical effect of uva ursi leaves and arbutin.—Virchow’s *Archiv.*, Vol.. 92, Pt. III.

Bell, Sir Charles. B. 1778, d. 1842. M.E.C.S., Surg. Roy. Infirm., Edin., 1797; M.R.C.S., Lond., Surg. Middlesex Hosp., 1812; Sen. Prof. Anat. Surg. Roy. Coll. Surg., Lond., and M.C., 1824; Lect. Physiol., Univ. Coll., Lond., 1826; knighted, 1831; Prof. Surg. Univ. Edin., 1831.

Author Vol. 3 of “Anatomy of the Human Body,” 3 vols., London, 1793 (by John Bell); “Anatomy of the Brain,” London, 1802; “A System of Operative Surgery,” 2 vols., London, 1807; “An Exposition of the Natural System of the Nerves of the Human Body,” London, 1824; “The Nervous System of the Human Body,” London, 1830; “The Hand, its Mechanism and Vital Endowments,” London, 1834-52; Various papers in “Philosophical Transactions,” “Institute of Surgery,” &c., &c. The discoverer of the double function of the spinal nerves, and the most humane vivisector on record. Among the published accounts of his experiments is the following:—

“After delaying long on account of the unpleasant nature of the operation, I opened the spinal canal of a rabbit and cut the posterior roots of the nerves of the lower extremity —the creature still crawled—but I was deterred from

repeating the experiment by the protracted cruelty of the dissection. I reflected that the experiment would be satisfactory if done on an animal recently knocked down and insensible—that whilst I experimented on a living animal, there might be a trembling or action excited in the muscles by touching a sensitive nerve, which motion it would be difficult to distinguish from that produced more immediately through the influence of the motor nerves."—*Nervous System of the Human Body* (Longman and Co.), 1830, p. 31.

The following extract contains the well-known conclusions of Sir Charles Bell respecting the utility of Vivisection and its moral aspect:—

"In concluding these papers, I hope I may be permitted to offer a few words in favour of Anatomy, as better adapted for discovery than experiment. Anatomy is already looked upon with prejudice by the thoughtless and ignorant—let not its professors unnecessarily incur the censures of the humane. Experiments have never been the means of discovery—and a survey of what has been attempted of late years in physiology, will prove that the opening of living animals has done more to perpetuate error than to confirm the just views taken from the study of anatomy and natural motions. In a foreign review of my former papers the results have been considered as a further proof in favour of experiments. They are, on the contrary, deductions from anatomy, and I have had recourse to experiments not to form my own opinions, but to impress them upon others. It must be my apology that my utmost efforts of persuasion were lost, while I urged my statements on the grounds of anatomy alone. For my own part I cannot believe that

Providence should intend that the secrets of nature are to be discovered by the means of cruelty, and I am sure that those who are guilty of protracted cruelties do not possess minds capable of appreciating the laws of Nature."—*Ibid.*, p. 217.

Similar sentiments are expressed in his "Essay on the Forces which Circulate the Blood," Part II., p. 25.

Bellesme, Jousset de. School of Physiology, Nantes.

Author of "Physiologie Comparée Recherches expérimentelles sur les fonctions du balancier chez les insectes," Paris, 1879; "Recherches sur la digestion chez les mollusques céphalopodes," Comptes rendus Vol. LXXXVIII. (1879), p. 428; "Recherches sur l'action physiologique du grenat ou résidu de fabrication de la fuchsine," Comptes rendus, Vol. LXXXVIII. (1879), p. 187.

Belli, Aristide (Prof.), Director of the School of Veterinary Medicine, Urbino.

Bennet, Alex. Hughes, 13, Old Cavendish Street, W. M.D., Edin. (Gold Medallist), 1872; M.B. and C.M., 1869, M.R.C.P., Lond. 1876 (Edin., Lond. and Paris); Mem. Path. Soc. Lond.; Ext. Mem. and Emer. Sen. Pres. Roy. Med. Soc. Edin.; Physician Hospital for Epilepsy and Paralysis, St. John's Wood, and to the Westminster Hospital, &c., &c.

Author of "An Experimental Inquiry into the Physiological Actions of Theine, Caffeine, Quaranine, Cocaine, and Theobromine," 1873; "A Practical Treatise on Electro-Diagnosis in Diseases of the Nervous System;" "Illustrations of the Superficial Nerves and Muscles, with their Motor Points," &c.

Bennett, John Hughes, M.D. Professor of the Institutes of Medicine in the University of Edinburgh; died 1875.

President of the Committee which performed the experiments on the effect of mercury, &c., on the livers of dogs. He was accustomed to lecture to his class on the benefit of vivisection, and advised his students to resist every attempt to interfere with it. Originator and suggestor of Rutherford's experiments on the bile ducts.

Béraud, J. B. Author of "Manuel de physiologie," Paris, 1853. Experiments on generative organs.

Bergeron, E. J., 75, Rue St. Lazare, Paris. M.D. Paris, 1866; Prof. Med. Fac. and Insp. of Lunatic Asylums for the Department of Seine, Knight of the Legion of Honour.

Author of "Les Réactions physiologiques des Poisons," Paris, 1836; "Sur l'existence normale du cuivre dans l'organisme," Paris, 1873; "L'empoisonnement par la strychnine," Paris, 1877, &c.

At the age of 26, M. Bergeron was commissioned to undertake a long series of experiments in several poisoning cases.

Berlin, W. (Dr.), Amsterdam University.

Bernard, Claude. B. at St. Julien, Rhone, France, 1813; d. 1878. M.D. Paris, 1843; Pupil and Assistant to M. Majendie; Prof. of Medicine at Faculty of Science, Paris; Member of the Academy of Science; succeeded Majendie as Professor of Experimental Physiology at the College of France in 1855; Prof. Gen. Physiol. at Museum, 1868; Mem. Acad. Med., 1861; Pres. Biological Soc., 1867; Member of French Academy, 1869; Commander of the Legion of Honour, 1867. Member of the Institute of France.

Author of “Leçons de physiologie expérimentale,” Paris, 1854-1855, 2 vols.; “Introduction à l’étude de la Médecine expérimentale,” Paris, 1855; “Leçons sur les effets des Substances toxiques et Médicamenteuses,” Paris, 1857; “Leçons sur la physiologie et la pathologie du système nerveux,” Paris, 1858; “Leçons sur les propriétés physiologiques et les altérations pathologiques des liquides de la l’organisme,” Paris, 1859; “Leçons de pathologie expérimentale,” Paris, 1871; “Leçons sur les anæsthétiques et sur l’asphyxie,” Paris, 1875; “Leçons sur la chaleur animale,” Paris, 1876; “Leçons sur le diabète et la glycogenèse animale,” Paris, 1877; “Leçons sur les phénomènes de la vie, etc.,” Paris, 1878; “La science expérimentale,” Paris, 1878.

“A physiologist” (Bernard wrote) “is no ordinary man. He is a learned man, a man possessed and absorbed by a scientific idea. He does not hear the animals’ cries of pain. He is blind to the blood that flows. He sees nothing but his idea, and organisms which conceal from him the secrets he is resolved to discover.”—*Introd. à l’étude*, p. 180.

Baked sixteen dogs and numerous rabbits in a stove. These animals, Bernard tells us (*Leçons sur la Chaleur Animale*, p. 347), survived respectively eight minutes, ten minutes, twenty-four minutes, and so on, according to the heat of the stove and according to the position of their heads within it, or outside of it. “It became impossible,” he says of them, “to count the pantings. At last the creature falls into convulsions and dies—uttering a cry.”

“Our hands without doubt are empty at present, but our mouths may be full of legitimate promises for the future.”—

Sur le Diabète, p. 43.

Bernstein, Jules (Prof.) B. Berlin, 1839. Halle University. M.D. Berlin; Prof. extraordinary of Medicine, University of Berlin, 1871; Prof. extraordinary of Medicine at Halle, 1873.

Author of works on the Nervous System; “Herzstillstand durch Sympathicusreizung;” “Die fuenf Sinne des Menschen,” in “Internationale Wissenschaftliche Bibliothek,” Vol. XII., 1875; “Untersuchungen ueber den Erregungsvorgang im Nerven und Muskelsystem.” Heidelberg. Darmstadt, 1871.

Has made a special study of the effects of electric currents on the nerves, and his work entitled “Untersuchungen ueber den Erregungsvorgang im Nerven und Muskelsystem,” is well known to physiologists.

Berruti, Giuseppe.

Author of “La Crania tornia nella practica ostretica,” Turin, 1876; with Perosini of “De l’ablation des capsules surrenales,” in *Gazette Hebdomadaire de Méd.*, 1856, p. 863 et 924.

Performed numerous experiments on Horses.

Bert, Paul, 9, rue Guy-de-la-Brosse, Paris. M.D., Paris, 1863; Prof. Physiol. Fac. Sci. at Bordeaux, 1869; obtained the Prize of 20,000 francs from the Academy of Science for his work on “La Pression Barométrique” in 1875; President Biol. Soc.; Senator and Minister of Public Worship for France, under the Presidency of M. Gambetta.

Author of “Notes d’Anatomie et de Physiologie comparées,” 1867; “La Pression Barométrique,” 1877; Contrib. Scientific Articles to “La République Française.”

“He thought it would be interesting to experiment upon newborn animals (cats), which, it is well known, he tells us, resist asphyxia much longer than full grown ones. (P. 571.) From his apparatus for keeping animals in compressed oxygen he draws a dog in full convulsions, strong enough to enable him to carry it by one paw, like a bit of wood. (P. 784.) The attacks of convulsions, under strong tension of oxygen, are, he says, really curious and startling.” (P. 799.) —*Pression Barométrique.*

“In this experiment a dog was first rendered helpless and incapable of any movement, even of breathing, which function was performed by a machine blowing through a hole in its windpipe.” All this time, however, “its intelligence, its sensitiveness, and its will, remained intact,” “a condition accompanied by the most atrocious sufferings that the imagination of man can conceive.” (*Vide* Claude Bernard in *Revue des Deux Mondes*, 1st September, 1864, pp. 173, 182, 183, &c.) “In this condition, the side of the face, the side of the neck, the side of the fore-leg, interior of the belly and the hip, were dissected out in order to lay bare respectively the sciatic, the splanchnics, the median, the pneumo-gastric and sympathetic, and the infra-orbital nerves. These were excited by electricity for ten consecutive hours, during which time the animal must have suffered unutterable torment, unrelieved even by a cry. The inquisitors then left for their homes, leaving the tortured victim alone with the engine working upon it, till death came in the silence of the night and set the sufferer free.” (Roy. Com., Q. 4,111.)—*Archives de Physiologie*, Vol. II., 1869, p. 650.