at 0.5° to 1.7°C, of haddock for 14 days and shrimp for 7 days, without adversely affecting consumer preference.

W. T. L. Neal (Ministry of Agriculture, Fisheries and Food, Great Britain) indicated that the principal interest of European countries is in the use of radiation to pasteurize foods to eliminate salmonella infection. He indicated that there is a potential in Britain for the application of radiation to the processing of imported frozen eggs, frozen horse meat imported for pet foods, coconuts, meat and fish meals, and chicken.

Lloyd L. Kempe (University of Michigan) reported on the unusual problems in studying Type E botulism in connection with the radiation preservation of foods. Citing studies on the heat resistance of Type E spores, he pointed out an apparent anomaly in the temperature at which they are inactivated. He reported on a study using spore suspensions of the Beluga strain in sealed ampules in which the number of spores was reduced by 5 cycles in 3 minutes at 78°C but survivors remained at 60 minutes. These remaining spores produced Type E toxin upon subculture. Kempe said that this indicates the existence of the so-called "tail" on the heat-survivor curves and that the surviving spores are Type E. Studies to confirm this are continuing.

The conference was sponsored jointly by the National Academy of Sciences–National Research Council, the U.S. Atomic Energy Commission, and the U.S. Army Natick Laboratories. Proceedings of the conference will be published by NAS–NRC.

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Vesalius Commemoration at Brussels

Vesalius was born in 1514 and died in 1564. His activities took him from his native Belgium, through France, Switzerland, Germany, Austria, Italy, Spain, the Holy Land, and the Greek islands. The widespread impact of his work amply justified the international celebration of the fourth centennial of his death which was held in Brussels 19–24 October 1964.

The meeting comprised two programs, one historical and humanistic, and the other concerned with contemporary biology. An elegant facsimile

edition of the *Fabrica* (1543) was published for the occasion, while C. D. O'Malley's biography of Vesalius had appeared shortly before the meeting. The week opened with a ceremonial session in the presence of King Baudouin; there were visits to Vesalius's birthplace and other historical sites, concerts of 16th-century music in the old city hall, and joint lunches and dinners.

The inaugural session of the combined programs was devoted to general addresses in honor of Vesalius and concluded with the formal opening of an exhibition of Vesaliana gathered from all over Belgium and from Switzerland and Spain; this was unquestionably the largest such exhibition ever presented.

The succeeding humanistic sessions were of a more specialized nature, with speakers invited from those European countries with which Vesalius had some relation, and from America, in order to stress the international character of the commemoration. With Heymans (president of the organizing committee) presiding, Belloni (Milan) discussed Vesalius's great-grandfather, Johannes de Vesalia, his medical training at Pavia, his study of the plague in Italy, and his relations with the Duke of Milan, Francesco Sforza. Kellett (Newcastle-upon-Tyne) dealt with influences on Vesalius during his medical studies in Paris (1533–36), and Boeynams (Antwerp) discussed the same theme as it related to Vesalius's further studies in Louvain. O'Malley (University of California, Los Angeles) spoke on the evolution of Vesalius's scientific method during his years in Padua.

A paper by Steudel (Bonn) on Vesalius's contribution to the development of anatomical nomenclature was followed by more general considerations of "The Vesalian man in the world of Copernicus" by Canguilhem (Paris), the evolution of scientific-technical relations by Auger (Paris), and a paper by Florkin (Liege) on "The renaissance of Vesalian studies in the 20th century." There is no question of the increasing interest in Vesalius and the growing recognition of his achievement.

The scientific sessions, in the form of a symposium on "Cell, form and function," represented an effort to view the contemporary scene in biology. Under the title "The cell and its environment," there were presentations by Danielli (Buffalo) and Koch (Lou-

vain), Chapman-Andresen (Copenhagen), Curtis (London), and Kleinzeller (Prague), centered around cell membranes and transport phenomena. Under "Energy production," there were broad discussions by Slater (Amsterdam) and Duysens (Leiden) on respiratory and photosynthetic processes, and by André (Paris) on the structure of mitochondria. Discussion on the "Utilization of energy" was opened by Chantrenne (Brussels) who spoke on "Polyribosomes, agents of protein synthesis." Gibbons (Harvard) then spoke on ciliary movement, and was followed by Huxley (Cambridge) and Mommaerts (UCLA) discussing the structure and function of muscle. Under the general heading "Catabolism," Berthet (Louvain), speaking for himself and DeDuve, discussed "Physiological adaptations of the phenomena of intracellular digestion." Levi-Montalcini (St. Louis) treated "Growth control of nerve cells by a protein factor and its antiserum," and Glucksmann (Cambridge) spoke on "Cell death in normal development."

At a meeting on "Morphogenesis and differentiation," Pasteels (Brussels) discussed the structural aspects of fertilization; Monroy (Palermo) spoke on the activation of protein synthesis in that process, and Curtis (London) discussed the cortical control of embryogenesis. The last special session was devoted to "Genetical aspects of embryonic development," with lectures by Thomas (Brussels) on the control of genetic replication, Sirlin (Edinborough) on nucleolar RNA, and Signoret (Caen) on nuclear transplantations and embryonic differentiation.

The closing session was opened by Brachet (Brussels) with a masterful summary of the entire scientific program. The symposium indeed provoked an active discussion of contemporary currents in biology; one may say that among these are the problems with which Vesalius would occupy himself today, the more so since the emphasis was on embryonic development, often regarded as the next frontier of molecular biology. As a result of the conference all participants were aware of the great scientific tradition perpetuated by Vesalius.

The proceedings of the conference and a catalog of the exhibition will be published.

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