



Anton Dohrn

Anton Dohrn, a German biologist from Stettin, died a century ago, on September 26, 1909, after almost forty years spent in Naples. He should be remembered in this year of Darwin celebrations because he was the founder, in 1872, of the Stazione Zoologica, the first Institute only devoted to research, the only Marine Biology Institute located in a city, and, most remarkably, the only Institute set up to prove a theory. That was Darwin's theory of evolution, to which Anton Dohrn had been introduced by Ernst Haeckel. The Stazione Zoologica was the product of a romantic dream, of the visionary project of a 32-year old man, who thought that the enormous biodiversity found in the sea would help in the understanding evolution, that an international community could stimulate research and that art could inspire scientific creativity.

The Institute was located in a park by the sea facing Capri (Fig. 1). The grounds were donated by the city of Naples, the construction was essentially financed by the Dohrn family (Anton's father was an industrialist, but also the editor of an Entomology journal).

The sea wing of the Stazione was devoted to art, especially music (the godfather of Anton was Felix Mendelssohn) which was played in a beautiful room decorated with the frescos of Hans von Marées, a friend of Anton. The paintings were remarkable both for their sheer beauty and for their message. According to one interpretation, the

“departure of the fishermen” and “the rowers” (Fig. 2) were to witness the struggle of men for survival, the “orange grove” to represent the attainment of harmony between man and nature, the “pergola” to celebrate in a very simple way the young artists and scientists who were responsible for the creation of this unique ensemble. The “Fresco Room” was also graced by the busts of Charles Darwin and Carl Ernst von Baer, which were molded by the architect of the Stazione, Adolf von Hildebrand, another friend of Anton. The two busts, made (like the Frescos) in 1873, when both scientists were alive, obviously were there to represent evolution and development (or phylogeny and ontogeny), the two fields of activity of the Stazione. When first seeing the Fresco Room (as it happened to me when I joined the Scientific Council of the Stazione in 1976), one could immediately realize that the Stazione was not just another research institute, however beautiful, but a place with a soul, a “sacred place for the biologist” in the words of Francois Jacob.

The land wing was devoted to science. The library was excellent by virtue of its completeness, and also thanks to the exchange system of reprints with other laboratories introduced by Anton Dohrn. The equipment was unique in that the master instruments of that time, the microscopes, were the first ones built by Zeiss according to the new lens designs of Ernst Abbe (yet another friend of Anton). These



Fig. 1. The Stazione Zoologica in a 1873 picture.



Fig. 2. The “rowers” from the Fresco Room.

prototypes, sent directly from Jena to Naples, attracted scientists from all over the world. On the other hand, a large aquarium (which is still open and is the oldest in the world) attracted the public and provided financial resources for the Stazione, along with the working spaces rented by a number of countries. Contacts were established by Anton Dohrn, who travelled extensively.

The success of the Stazione was immediate. An international atmosphere was established by scientists who were arriving from many countries (the Stazione was considered to be a “permanent congress”) and were taking advantage of the fauna and flora of the Gulf of Naples for their studies, mainly in the fields of morphology, physiology, and embryology. Between its foundation and the First World War, the Stazione hosted the most famous biologists: E. B. Wilson, Theodor Boveri, Hans Driesch, Otto Warburg, Fridtjof Nansen, Thomas Hunt Morgan, to name only a few. Seventeen of the visitors of the Stazione received the Nobel Prize. Indeed, the Stazione was the inspiration for all the other Marine Biology laboratories around the world. In several cases even its arcades were taken as an architectural element to evoke their origin.

After the death of Anton Dohrn in 1909, one of the five sons he had from his Russian wife, Marie von Baranowska, Reinhard (or Rinaldo) succeeded him, but most unfortunately the golden era of the Stazione was brutally brought to an end by the First World War. Indeed, the Stazione was appropriated in a doubtful operation by the Italian Government of that time. After Rinaldo was reinstated as its Director in 1924 (to be succeeded at his death by his son Pietro, 1954–1967), the Stazione started a second phase of its life. Although not as bright as the first one, it was still marked, between the two wars, by some exceptional discoveries, such as the “organizer” of Hans Spemann, and the giant axon of squid of John Z. Young. These discoveries were followed at the Stazione by important developments in embryology and neurobiology.

The years of the Second World War and the following ones were a difficult time for the Stazione, with highs (for example, when Alberto Monroy was the Director, 1976–1980) and lows, but the original imprint by Anton Dohrn was so strong that it allowed the Stazione to survive. A special event that took place in 1951 should be recalled: in one of the meetings held at the Stazione, Maurice Wilkins showed for the first time an X-ray diagram of DNA; a young American post-doc in

the audience, Jim Watson, understood that the structure of DNA could be solved and he did it with Francis Crick in Cambridge in 1953.

A second revival was started in 1987 by my predecessor Gaetano Salvatore who insured a financial stability of the Institute and developed international links by setting up a new Scientific Council (of which I was a member). After his premature death in 1997, I took over



Fig. 3. The door of the Laboratory of Molecular Evolution with the pictures of Charles Darwin and Anton Dohrn.

and carried his initiatives further. A number of international meetings, workshops and lectures took place over my 10-year tenure. The buildings were renovated and the scientific activity of the Stazione flourished. In 1998 I established a new laboratory of Molecular Evolution (Fig. 3) whose research led to the development in 2007 of the neo-selectionist theory of genome evolution (an ultradarwinian theory which would have pleased Anton Dohrn). Clearly, the old flame, started more than 125 years before, was still burning, as stressed, in his delightful Italian-Neapolitan, by Pietro Dohrn during his visits to me. In September 2007, Pietro, the last of the Dohrns, died and I ended my mandate. At that time, nobody could have imagined that those events were marking the end of an era, the end of a style.

There is a vast literature about the Stazione Zoologica. For more information about Anton Dohrn, one should read his biography by Theodor Heuss, later to become the first Chancellor of the Federal Republic of Germany (first printed in Germany in 1940 and 1962 and

reprinted in English in 1990 and 2000). The correspondence of Dohrn with Darwin was also published (Macchiaroli, Naples, 1982), as well as a book on the Fresco Room. Originally this was printed in Italian and German, but it is now available in English: *Art as Autobiography* (L. Ritter-Santini, C. Groeben eds.), Macchiaroli, Naples, 2008. A brief history of the Stazione by Bernardino Fantini, was also published by the Stazione.

Giorgio Bernardi

*Laboratory of Molecular Evolution, Stazione Zoologica Anton Dohrn,
Naples, Italy*

E-mail address: bernardi@szn.it.