FROM SUNLIGHT TO INSIGHT
Ja IngenHousz, the discovery of photosynthesis & science in the light of ecology

Who discovered photosynthesis?
Not many people know. Jan Ingen Housz’s name has been forgotten, his life and works have disappeared in the mists of time. The tale of his scientific endeavour shows science in action. Not only does it open up an undiscovered chapter of the history of science, it also shines some light on the processes, phenomena and relationships in the development of science.

Dr. Jan Ingen Housz
Jan Ingen Housz (1730 Breda, NL - 1799 Bowood, UK) lived a life of travelling between Vienna, London, Firenze, Paris and Bath. He was a medical doctor with a broad scientific interest. He was a close friend of John Pringle, prominent scientist, Royal Physician and president of the Royal Society. Ingen Housz was appointed as Emprial Physician by Maria Theresia in Vienna after successfully inoculating her family against smallpox. He befriended people such as Joseph Priestley and Benjamin Franklin. He kept close contacts with important scientists of his time, such as Lavoisier, Spallanzani, Van Swieten and Senebier.

The discovery of photosynthesis
Priestley discovered oxygen in 1774, although he didn’t call it as such and probably did not really understand what he discovered. It would be Lavoisier who would later give this gas its name and a place in modern chemistry. At that pivotal point in chemical history, where 'oxygen' was coming to replace 'phlogiston', Ingen Housz performed in the summer of 1770 some 500 experiments on plants and wrote down his conclusions in *Experiments upon vegetables*, discovering their "great power of purifying the common air in the sun-shine, and of injuring it in the shade and at night". From this publication and the subsequent articles and correspondence, it is clear that he was the first to describe and understand the process of photosynthesis. It is the most important chemical process on earth, as the central reaction that makes animal life possible, something which Ingen Housz made abundantly clear.

Old story, new perspective.
This underresearched case of scientific enquiry is representative for science as a method for acquiring trustworthy knowledge. Ingen Housz was a typical exponent of the Enlightenment, trying to contribute to a better society. His works offer a privileged and unknown starting point for a philosophical enquiry into the history of biology as well as the dynamics of science in general, based on as yet unstudied letters and documents and a reconstruction of his experimental method.

It is also a attempt to an ‘ecological’ approach to the philosophy of science. Science studied as an ecosystem: individual organisms (scientist are people of flesh and blood), groups of animals and plants (scientist seem always to operate in groups), their environment (society as the culture on which scientific knowledge grows and by which it is limited at the same time) and the flows of energy and information that link all components together and define their interactions and dynamic equilibrium (the interactions between all these factors in the multidimensional ‘game’ of science)