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Editorial

"Out of nothing comes nothing"[α] versus "Perpetual flux"[β]

[α]Epicurus of Samos (341–270 BCE); [β]Heraclitus of Ephesus (535–475 BCE)

Thoracic and cardio-vascular surgery is perceived as some of the most challenging fields of modern medicine. There are various reasons for this, including the emotional weight the heart has in our daily life, where e.g. the term 'broken heart' very well describes some of the feelings we can have. At a very different level is the view, that the heart is housing the soul. This may explain why the term 'heartless' is often read as 'soulless'. Independently of the potential supra-natural qualities of the heart, most of us would agree, that the heart and its branches are vital to the well-being of the body, a situation that is more than evident for thoracic and cardio-vascular surgeons who have experienced the absence of its function, a phenomenon that can be summed up by 'no heart – no live'.

As a matter of fact, it is the failing, or potentially failing heart and circulation, including both pulmonary and peripheral, which are at the very core of our attention. Numerous surgical therapeutic strategies have been developed to cope which such situations. One of the most spectacular ways to handle terminal heart and/or lung failure certainly remains heart and/or lung transplantation. However, if available at all, early correction in order to prevent irreversible damage to the heart and the depending organs is certainly preferable. Thoracic and cardio-vascular surgery nowadays allow for repair of many congenital and acquired defects, if adequate diagnostic work-up has been made, and the required structures for cure and care are available. It took about half a century [1] to reach the levels of performance we are used to today, and it is quite normal to think about consolidation for the achievements made. There can be no doubt that the Greek philosopher Epicurus of Samos (341–270 BCE), who spent most of his active live in Athens, was quite right when he said, that "Out of nothing comes nothing". Hence, with regard to the field of open-heart surgery, which essentially started with congenital heart surgery [2], it is of prime importance to secure the necessary resources for being able to realize also in the future congenital heart surgical procedures with acceptable outcome.

The European Journal of Cardio-thoracic Surgery publishes in this issue an important document entitled *Optimal Structure of a Congenital Heart Surgery Department in Europe* [3]. The ideas expressed there are the fruit of a major effort of experts involved in congenital heart surgery for organizing a functional congenital heart surgery unit from scratch. The authors and contributors must be congratulated for having listed practically everything required today for being successful in the field of congenital heart surgery including staff, equipment, education and research. The downside of this quite extensive list of marvels is the overall cost, which requires its division by a large number of (small) patients in order achieve a reasonable price per procedure. If a stand-alone unit for congenital heart surgery in the middle of nowhere is somewhat limited in its options to cope with the requirements defined in the document mentioned, things are somewhat different in a large medical centre where various departments can contribute towards both human resources and equipment. The life-long needs of grown-ups with congenital heart disease (GUCH) requiring seamless co-operation between paediatric and adult congenital heart surgeons, and long-term ECMO patients benefiting from a strong pump team available around the clock, are just two examples for intra-institutional mutual benefits. Alternatively, national and international co-operations (http://www.hospvd.ch/chuv/ccv/) can allow for increased exposure of the team(s) involved. Based on the extremely low morbidity and mortality reported [4], international arrangements can appear quite successful. However, for the latter, it is difficult to predict the future development, because the unit sending away its more complex patients can over time become less attractive for experts in the field of congenital heart disease, and this in turn may hurt early diagnosis, expeditious diagnostic work-up, patient recruitment, and ultimately, care.

It has to be mentioned here that despite our efforts to provide scientific evidence, it is, for the time being, not clear what the ideal number of operations should be [5] in a congenital heart surgery unit. Although major efforts have been made to organize a common language with regard to congenital heart defects, the tools for assessment of outcomes in this field are still under development [6]. Another caveat, with regard to carving in stone the requirements for medical activities, is the rapid evolution

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of both medicine [7] and technology [8] on one side, versus our societies on the other. These developments may seriously affect thoracic and cardio-vascular surgery as we know it today. Heraclitus of Ephesus (535–475 BCE) thought that it is impossible to take a bath twice in the same river. The term he coined, "Perpetual flux", appears to be more adequate than ever!

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