before referring to our more experienced radiologist colleagues for FNA. It is my firm belief that our specialty is evolving fast, and the future generation of thoracic surgeons may be expected to use portable ultrasound (for example, to accurately locate pleural effusions before drainage) as an extension of their bedside clinical skills.

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Letter to the Editor

Systolic ventricular filling

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It is disappointing to see yet another review appearing in the surgical literature promoting a physiological concept on the anatomic basis of the 'ventricular myocardial band' [1]. It is well known that disputation is the lifeblood of science, but it is equally accepted that those promoting a new concept should first examine, and refute, any evidence that might invalidate it. As far as I am aware, neither Dr Torrent-Guasp, nor his co-workers, have offered any explanation as to why previous accounts of the architecture of the ventricular mass are deficient. In fact, there is a wealth of anatomic evidence [2–4] to show that, rather than being arranged in the form of a skeletal muscle, with an origin from one arterial root, and an insertion at the other, as claimed by Dr Torrent-Guasp and his supporters [1], the ventricular mass is arranged in the form of a modified blood vessel, with each myocyte anchored to its neighbour within a supporting fibro-collagenous matrix.

If the ventricular mass were truly arranged in the form of the 'ventricular myocardial band', then the structure of the fibrous matrix determining this arrangement would be demonstrated by techniques such as serial histological sectioning or magnetic resonance imaging. In reality, these techniques show the ventricular myocardium to be arranged in a complex three-dimensional meshwork of tangential and intruding fibres [2,3]. Dissection techniques have been used to confirm this arrangement [4], but those using the destructive approach of dissection recognise that this methodology unequivocally produces artefacts, since the technique, of necessity, interrupts the integrity of the supporting fibro-collagenous matrix. For this reason, the investigation of Jouk and colleagues [5] is key in the ongoing debate, since these workers have confirmed the basic arrangement of intermingling tangential and intruding fibres, but without needing artefactually to take apart the musculature making up the ventricular mass.

I recognise, of course, the prerogative of Torrent-Guasp to question the currently accepted arrangement of the ventricular mass, with its physiological and clinical correlates. When questioning this generally accepted hypothesis, nonetheless, I emphasise again that it is incumbent upon Torrent-Guasp, and those who now support him [1], to demonstrate its deficiencies. This they have singularly failed to do. Those who seek to interpret the known physiological facts in the fashion suggested by Torrent-Guasp and his colleagues, therefore, should be aware of the major shortcomings of their anatomical analysis.

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Reply to the Letter to the Editor

Reply to Anderson

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We are delighted that our article [1] attracted the interest of a world-wide expert of cardiac morphology like you Prof. Anderson and, despite your evident nihilism, we appreciate your input. We also totally agree with you that the readers should be protected from unproven statements, and therefore we take this opportunity to provide further arguments in favor of our hypothesis.

In support of this, we will cite a sentence from, so often mentioned, Streeter's seminal work [2]: "It was not until the middle of this century that two researches, separately established valid, reliable methods. They were Torrent-Guasp, with his principal 'fiber path' method of blunt dissection, and Hort, with his micrometric method trough wall blocks." As the first author (Torrent-Guasp) was his personal friend and close associate, having published several papers together, we feel obliged to say that Daniel Streeter was the brightest example of integrative person, capable to unify (not to confront) different approaches, as those of classical and contemporary anatomists, thus creating a valuable mainstream in exploring the 'Gross morphology and fiber architecture of the heart' [2].

An independent empirical testability is the hallmark of science. Again, it was just Dainel Streeter who had described the techniuqe of unraveling ventricular myocardial band 'reliable and reproducible' stating that accepting 'statistical criterion of the principal fiber direction at given point' may accomodate factual difficulties, arising from complex and anisotropic myocardial architectural design [2]. Whether we like it or not, from Vesalius to nowadays, the 'destructive approach of dissection' has been the one used by all the anatomists born in this world, during the last five centuries. But, should our minds be as destructive as our fingers? Classical anatomists, were simply unable to find any architectural plan able to join, in a coherent whole, all fibers comprising the ventricular mass. Therefore 'the previous accounts of the architecture of the ventricular mass' are not deficient — they just do not exist as such. In spite of that, without extensive knowledge of the work of classical anatomists, we surely wouldn't be able to realize the architectural plan of the ventricular myocardium.

Unavoidable coherence and mutual coupling of form and function exist in the entire ventricular myocardium. In order to emphasize the importance of structure-function relationships of the intact ventricles, National Heart, Lung, and Blood Institute convened a workshop entitled 'Form and Function: New Views on Development, Diseases and Therapies for the Heart', which was promoted and developed around the anatomical concept of the ventricular myocardial band [1].

From this point, further, there were many scientifical papers published, confirming the validity of ventricular myocardial band concept [3–5]. Diffusion Tensor MRI, as rapid, highly resolutive, non-destructive methodology, has confirmed both histological structure [3] and macroscopical design of the ventricular myocardium [4,5]. Moreover, those analyses have also confirmed some crucial functional correlates [3–5], derived from the specifical spatial organization of the ventricular myocardium, as described in our article [1].

Even if we understand that, in your view, we moved the Sun at the center of the Universe, instead of the Earth, time will tell.

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