Minimalism and the art of medicine

C Niek van Dijk, Editor-in-Chief

As the 20th century recedes into the distance, we can begin to appreciate its virtues. One of them was a growing interest in simplicity, eventually resulting in minimalism, a movement in art and architecture. The feeling was that beneath all the surface decoration, there was something rather simple going on and that this simplicity was really beautiful. Minimalism was greatly influenced by technology, in a sense that if we would regard the world as a machine and strip away all the persiflage, we would find the ‘working parts’—the vital bits that make the machine work—and we could rediscover the essential, which would be simple and elegant. If we could only bring out this simplicity, we could make ourselves cleaner, more honest and more efficient.

As with every change of paradigm, minimalism did not come without struggle. One early battleground was architecture, where the great American architects Mies van der Rohe and Frank Lloyd Wright battled against the forces of orthodoxy. The norm was abundant and often useless decorations. But what they wanted were functional buildings whose very function was their beauty, simply because they were efficient. ‘Less is more’ was their motto, and because of the efficient modern technology, they eventually changed the way we thought, which was a triumph of the 20th century.

All our technology is now based on this minimalistic principle: from aircraft design to Swedish furniture to sci-fi spacecraft. Simplicity is elegance is efficiency. Think of the famous London Tube map, designed in 1931, but still unchanged. Why so? Because it is so simple that everybody can understand it. Think of Piet Mondriaan’s New York paintings, reducing the city to a sequence of coloured squares. Think of the minimalistic music of Philip Glass, Steve Reich or Arvo Pärt.

The same idea runs through science. If there are two explanations for a phenomenon, we instinctively favour the simplest. Why? Because we automatically sense that reality is simple and elegant. It is sometimes puzzling why this should be so—at least in biology—since evolution never gets a chance to design things from scratch, as an engineer would, but has to muddle through with what it has inherited. The human ankle is a cool piece of design, no doubt, but I daresay we could design it better if we could start from the beginning as bipeds rather than mutant quadrupeds. However, the idea still remains, deep in the modern psyche, that the simple and elegant is more likely to work than the complex and-complicated. That is the theory, and that is our sentiment. But how does it work for our patients?

If pain is the main symptom for a patient with unicompartamental osteoarthritis (OA) in an anterior cruciate ligament (ACL) deficient knee, then combined unicompartamental knee arthroplasty and ACL reconstruction are indicated. When instability is the main symptom, ACL reconstruction without addressing the OA is indicated. In their systematic review of patient and work-related factors in return-to-work after TKA, Pahlplatz et al. conclude that patients are not slowed in their return to work merely because their work is tough on their knees (high knee-demanding occupations). The level of pain before surgery, however, is an important factor. A patient who is low symptomatic before surgery will return more slowly, if at all, whereas someone whose pain has been alleviated will return faster. This confirms earlier findings and suggests that low symptomatic patients benefit less (or least) from their TKA.

In fracture treatment, we speak of ‘reading the fracture’ to get the best result. The same should apply for arthritic knees. We should ‘read the patient’ to get the best results for their particular situation. Does this mean we should consider the patient’s sexual activity? In their systematic review, Kazarian and Chen suggest we should. What patients expect from an operation will affect how happy they are with it afterwards. As regards THA or TKA, many patients can expect their level of sexual activity to change after implantation of their prosthesis (25%—50%). If we want them to be happy with their operation, we should tell them quite clearly what they can expect (or cannot expect). This applies to sexual activity as well.

Limit yourself to what is needed. Don’t do too much. The Classic in this issue continues our theme of the simple and the minimal. The Classic considers McGinty et al.’s 1977 article on partial or total meniscectomy. This identified partial meniscectomy as a viable and indeed favourable procedure compared with total meniscectomy and came at a critical period for both meniscectomy and arthroscopy. Over the following decades, McGinty was seen as a crucial...
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step towards less invasive treatment of meniscal injuries, and it laid the foundation for clinical research on the treatment of meniscal pathologies. McGinty’s 1977 paper was a turning point for the orthopaedic community. It urged us to preserve meniscal tissue through partial meniscectomy and ultimately repairs.

Less is more. The lesson is still valid today. Beware of an arthroplasty in a low symptomatic arthritic knee. Likewise, an ACL reconstruction is sufficient if instability is the main complaint in an arthritic ACL deficient knee. And preserve the meniscus whenever you can!

Can you feel this great paradigm of simplicity and elegance as a living force from the last century?

An important reason for our trust-in-simplicity is connected with our trust in science. Modern science developed in the West, not in China or Arabia, both of which were more ingenious and better organised, and, generally, more advanced, than medieval Europe. But science as we know it—looking at the world, spotting irregularities and anomalies, trying to explain them by cause and effect and underlying structure, then going back to the world and checking—developed only once and in Europe. It explains our trust in simplicity. Let us apply this principle also to patient care: ‘Keep it stupid simple’.

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