THE HUMAN ISN'T A ICE-BLOCK

NEW CHANCES OF THE PROVISION FOR PATIENT'S MOVEMENTS IN THE RADIOTHERAPY

by Mathias Walke, Nils Riefenstrahl, Gerald Krell, Günther Gademann, Bernd Michaelis (p. 3)

The current picture of the patient in the radiotherapy chain resembles a rigid, motionless ice-block. Any movements are exclusively accounted for by the use of safety-marginsaround the treatment volume. But, in fact, the patient is alive and, of course, not an ice-block. Integrating patient's movements achieves increased target point accuracy and by that an improvement of radiation accuracy. The decisive key to the detection of the patient itself and his/her individual movements are active measurement systems. The mathematical analysis of the data generated by these systems for every patient opens up the possibility to supplant general safety margins by individually optimized ones. The amount of data acquired for every patient gives the opportunity to detect changes in position or patient's movements early on. Such a comprehensive monitoring of movements all through the radiation therapy series allows for entirely new perspectives especially with regard to early interventions, but also concerning the recognition of and the understanding of the development of directional movements. The mental step from the picture of the rigid ice-block to a patient with a complex, changing movement pattern using novel optical systems is only recently being brought about. The group of persons in the learning process comprises physicians, medical-physicists and radiological technicians.

STRUCTURAL CHANGES IN THE BANKING INDUSTRY

AN OVERVIEW

by Horst Gischer (p. 19)

Private banks play an outstanding role in market economies. They provide services without which modern developed economies can hardly exist. Nevertheless, the performance and behaviour of banks in Germany are repeatedly topics of controversial discussions. Personal linkages between banks and supervised companies have recently been of vital interest, the fallacies of „Holzmann" or „Kirch" are most prominent examples. Currently, the banking industry is affected by unexpected slumps in earnings and profits. It seems to be reasonable that these developments have been caused by ongoing structural changes in the banking sector. In this article, the outlines and consequences of this process are sketched.

THE LOSTART.DE PROJECT

AN INTERNET DATABASE FOR LOST CULTURAL ASSETS

by Kai-Uwe Sattler, Eike Schallehn, Ingo Schmitt, Nadine Schulz (p. 11)

The documentation and publication of cultural assets lost as a result of persecution by the Nazi regime and World War II during the period from 1933 to 1945 is until today an ongoing task concerning the rightful owners, art historians, and even politicans. In this article we present the Lost Art Project, within which a Web database supporting the documentation of and search for lost cultural assets was developed. The database comprises a multitude of information on the registered objects and allows for searching and navigating the data applying various paradigms and languages. Based on the architecture of the system we describe aspects of the implementation, the various search capabilities, and the exchange of data between the official Web database and the database used internally by the Coordination Office for Lost Cultural Assets.

NERVES FROM THE LABORATORY

TISSUE ENGINEERING OF PERIPHERAL NERVES FOR RECONSTRUCTION OF NERVE LESIONS

by Hisham Fansa, Gerburg Keilhoff, Gerald Wolf, Wolfgang Schneider (p. 25)

Peripheral Nerve injuries are very common. Their treatment, however, is still not favourable. Primary mircosurgical suture offers the best environment for nerve regeneration. In defects an autologous graft is necessary to bridge the nerve gap. Harvesting of the graft usually leads to neurological deficits. To overcome this problem we are currently working on tissue engineering of peripheral nerves from a biogenous matrix, such as basal lamina, and cells from the nerve sheaths, the so called Schwann cells. In an animal model these grafts have successfully bridged a 2 cm gap. The results are similar to those achieved by regular nerve autografts.

RIGHT V. MIGHT
GREAT POWER LEADERSHIP IN THE ORGANIZED INTERNATIONAL COMMUNITY OF STATES AND THE RULE OF LAW

by Jost Delbrück (p. 33)

Domestically, might or power without law leads to tyranny. In the international system, might without law constitutes anarchy or the bellum omnium contra omnes. Law without might altough binding, in the last resort, is not enforceable. Thus the law, including international law, needs to be founded in a power substrate that in critical cases ensures its enforcement. The article concentrates on the question as to which is the power substrate that can serve as the foundation of the institutionalizing international legal order and promote the rule of law in the international system. This analysis is undertaken with regard to the United Nations (UN) whose Charter constitutes an essential element of the constitutionalizing international legal order. According to the Charter, the Great Powers are to serve as the UN's power substrate. Since the Great Powers did not live up to their responsibilities and repeatedly found themselves in breach of basic principles of international law, the article argues that the UN's power substrate needs to be broadened, particularly in view of the present asymmetrical power relationship.

EARLY HISTORY OF THE PROBABILITY THEORY – A SKETCH

by Robert Ineichen (p. 39)

The roots of probability theory are usually attributed to the 17th century. However, one can wonder if some notions related to stochastics were not developed before.Our paper is a tentative answer to this question. It intends to cast some light on the notions of probability in the Antiquity, in the Middle Ages and in the early Modern Times, on the chance evaluation by counting the number of favorable cases and on the notions of statistical regularity.