# Summary in English

**Nils Baas and Christian Skau,** *Selberginterjuet IV - IAS and Obiter Dicta* (Norwegian).
In the final part of the interview Selberg reminiscences about colleagues at the Institute of Advanced Study, where he spent almost all of his professional life. In particular Selberg recalls Einstein, Gödel, Oppenheimer, Nash and in particular Hermann Weyl for whom he entertained a very high regard, as well as some of the conflicts that raged at the Institute. He presents his views on mathematics, upholding the Platonic view that mathematicians do discover objective phenomena independent of man, and that mathematical formalism never can fully encompass the workings of the mathematicians mind, thus dismissing Hilberts project as a failure. Furthermore he discusses the great Norwegian mathematicians and explains why he finds Riemann so much superior to Weierstrass. He reflects on what characterizes good mathematics and the future of mathematics, in particular its relation to applications. In particular he emphasizes that simplicity is very fundamental to mathematics not only aesthetically, and this is why Weyl was far more important than say Siegel. He reveals his preferred working methods, admits that he never uses computers, not even for e-mail. In the end he is asked about religious beliefs, if any, hobbies, and taste in literature. Finally he singles out the trace formula as his most important mathematical achievement.

**Jan Boman,** *Datortomgrafins matematik* (Swedish).
Computerized tomography is a very important diagnostic tool in modern medicine. Mathematically it boils down to reconstructing a function $f(x, y)$ from its integrals $\int_L f ds$ over each line in the plane. This problem was solved already in 1917 by the Austrian mathematician Johann Radon, who gave an explicit expression for the function $f$. The lines in the plane are usefully seen as points in the so called dual plane, and the function $\hat{f}(L) = \int_L f ds$ is nowadays referred to as the Radon transform (of $f$). Radon thus gave a mathematically beautiful inversion of this transform. The applications of Radons work are not restrained to medicine (where Radon's results were rediscovered in the 60's) but include geology, especially sesmiology and oil-prospecting, and many other industrial and commercial enterprises. In the article an elementary and detailed account of the reconstruction is presented using Fourier transforms and convolutions, allowing a numerical simulation (invaluable to any application).

**Olav B. Skaar,** *Generalisering av det gylne rektangel til høyere dimensjoner* (Norwegian).
In this article a generalization of the golden mean is presented, differing from an earlier one suggested by Huntley in the 60's. While the classical golden mean is given by the relation $\frac{a_1+a_2}{a_1} = \frac{a_1}{a_2} = \phi_2$ for cutting a given segment $(a_1 + a_2)$ into two $a_1 > a_2$, giving a well-known quadratic quation for $\phi$; the relation for cutting it into three $0 < a_3 < a_2 < a_1$ should satisfy $\frac{a_1+a_2+a_3}{a_1} = \frac{a_1}{a_2} = \frac{a_2}{a_3} = \phi_3$ where $\phi_3$ is the unique real root of a cubic equation. This naturally generalizes to $\phi_n$ for all $n$. This leads to higher-dimensional geometric analogues of the golden rectangle, as well as to natural recursive generalizations of the Fibonacci numbers.