solutions for abstract parabolic equations by a different method. The author applies these results to semilinear parabolic equations and the Navier-Stokes equations. This provides another proof for regularity criteria in Chapter IV. The major part of Chapters IV and V is based on recent results of the author and Sohr. Each chapter has a section for comments on related results which is very helpful for the reader. Most of prerequisites are given in the book, with or without proof. Finally, the reviewer acknowledges that the book is well proofread, although there are a lot of complicated formulas with sub- and superscripts.

REFERENCES

H. Fujita and T. Kato (**1964**), *On the Navier-Stokes initial value problem.* I, Arch. Rational Mech. Anal. **16**, 269–315.

Y. Giga (**1981**), *Analyticity of the semigroup generated by the Stokes operator in L_r spaces,* Math. Z. **178**, 297–329.

——— (**1985**), *Domains of fractional powers of the Stokes operator in L_r spaces,* Arch. Rational Mech. Anal. **89**, 251–265.

E. Hopf (**1951**), *Über die Anfangwertaufgabe für die hydrodynamischen Grundgleichungen,* Math. Nach. **4**, 213–231.

T. Kato and H. Fujita (**1962**), *On the nonstationary Navier-Stokes system,* Rend. Sem. Math. Univ. Padova **32**, 243–260.

J. Leray (**1934**), *Sur le mouvement d'un liquide visqueux emplissant l'espace,* Acta Math. **63**, 193–248.

J. Serrin (**1962**), *On the interior regularity of weak solutions of the Navier-Stokes equations,* Arch. Rational Mech. Anal. **9**, 187–195.

——— (**1963**), *The initial value problem for the Navier-Stokes equations,* Nonlinear Problems (R. E. Langer, ed.), pp. 69–98, Univ. of Wisconsin Press, Madison.

P. E. Sobolevskiĭ (**1959**), *On non-stationary equations of hydrodynamics for viscous fluid,* Dokl. Akad. Nauk SSSR **128**, 45–48 (Russian).

V. A. Solonnikov (**1973**), *Estimates for solutions of nonstationary Navier-Stokes equations,* J. Soviet Math. **8** (1977), 467–529; original in Zapiski Nauchn. Sem. LOMI im.

V. A. Steklova AN SSSR **38**, 153–231.

R. Temam (**1977**), *Navier-Stokes equations,* North-Holland, Amsterdam.

<div align="right">Y O S H I K A Z U   G I G A</div>

Differential geometry and topology, by A. T. Fomenko; translated by D. A. Leites. Consultants Bureau, New York and London, 1987, xiii + 323 pp., $ 75.00. ISBN 0-306-10995-6

Most mathematicians soon acquire the habit of scribbling diagrams and drawing pictures when reading mathematics to help them follow the argument. This book, however, contains so many useful and attractive diagrams (234 figures in 323 pages) that scribbling is much less necessary than usual. It is a book for readers who like thinking in pictures better than following a proof through line by line. Explanations are stressed more than formal proofs, theorems which are not needed but are considered interesting are stated without