

8. General remarks

In all the papers we have mentioned the authors have based their discussions on the shallow water wave theory by Stoker, but with modifications depending on the problem such as 'the breaking and climbing' of a wave depends on the type of wave and the bottom topography of the sea bed.

The shallow water wave theory itself is an approximation and the results obtained will be accurate only to a certain degree. Thus any further modifications or approximations will tend to make the results less accurate.

Therefore we can say that there is still no general criteria found which enables us to determine when a given wave will break other than at the wave front, although the initial wave shape and the bottom topography are of fundamental importance.

REFERENCES

- (1) Bartholomeusz, E.F. 1958. The reflection of long waves at a step. Proc. Camb. Phil. Soc. Math. 54, 106-118.
- (2) Beeker, E. 1968. Gas dynamics New York Academic Press.
- (3) Benjamin, T.B. 1966. Internal waves of finite amplitude and permanent form. J. Fluid Mech. 25, 241-270.
- (4) Benney, D.J. 1966. Long non-linear waves in fluid flows. J. Maths and Physics 45, 52-63.
- (5) Biesel, F. 1952. Study of wave propagation in water of gradually varying depth. U.S. National Bureau of Standards gravity waves NBS circular 521.
- (6) Carrier, G.F. 1966. Gravity waves on water of variable depth. J. Fluid Mech. 24-4, 641-659.
- (7) Carrier, G.F., and Greenspan, H.P. 1958. Water waves of finite amplitude on a sloping beach. J. Fluid Mech. 4, 97.
- (8) Courant, R. and Lax, P.D. 1949. On non-linear partial differential equations with two dependent variables. Comm. Pure Appl. Math., 2, 255-273.
- (9) Dressler, R.F. 1949. Mathematical solution of the problem of roll-waves in inclined open-channels. Comm. Pure and App. Maths. 2, 149-194.
- (10) Friedrichs, K.O. 1948. On the derivation of the shallow water theory, appendix to the formation of breakers and bores by J.J. Stoker; Comm. Pure and App. Maths. 1, 81-85.
- (11) Friedrichs, K.O. 1954. General Theory of High Speed Aerodynamics, Princeton University Press.
- (12) Greenspan, H.P. 1958. On the breaking of water waves of finite amplitude on a sloping beach, J. Fluid Mech. 4, 330-334.

- (13) Jeffrey, A. 1964. The breaking of water waves on a sloping beach.
Z. Augn. Math.Phys. 15, 97-106.
- (14) Jeffrey, A. 1975. Smooth fronted waves in the shallow water
approximation. R.S.E. Proceedings (A), 73.
- (15) Jeffrey, A. and Tin Saw, 1973. Waves over obstacles on a shallow
seabed, R.S.E. Proceedings 71A, 181-193.
- (16) Jeffrey, A. and Kakutani, T. 1972. Weak non-linear dispersive waves.
A discussion centered around the Korteweg-De Vries
Equation SIAM Review 14-4.
- (17) Keller, B. 1948. Solitary waves and periodic waves in shallow water.
Comm. Pure and App. Maths. 1, 323-339.
- (18) Lamb, H. 1932. Hydrodynamics. Cambridge.
- (19) Lax, P.D. 1954. The initial value problem for non-linear hyperbolic
equations in two independent variable. Ann. Maths.
Stud., 33, 211-229.
- (20) Mader, C.L. 1974. Numerical Simulation of Tsunamis J. Phys. Oceanogr., 4,
74-82.
- (21) Meyer, R.E. and Ho, D.V. 1968. Climb of a bore on a beach.
Part I; uniform beach slope, J. Fluid Mech. 14, 305.
- (22) Meyer, R.E. and Shen, M.L. 1963. Climb of a bore on a beach. Part II,
non-uniform beach slope. J. Fluid Mech. 16, 108.
- (23) Stoker, J.J. 1948. The formation of breakers and bores, Comm. Pure
and Applied Maths., 1,1.
- (24) Stoker, J.J. 1953. Unsteady waves on a running stream, Comm. Pure
and Applied Maths, 6, 471-481.
- (25) Stoker, J.J. 1957. Water waves. New York Interscience.
- (26) Ursell, F. 1953. The long wave paradox in the theory of gravity waves.
Proc. Cam. Phil. Soc., 49

