also most dormant towards pressure (e.g. *Bacillus coagulans* and *B. subtilis* var. *niger* (syn. *globigii*) in Fig. 1 *a*, *b*, compared with the less dormant spores of *B. cereus* T in Fig. 1 *c*).

Stimulation of pressure germination by heat activation

Heat-activated spores were germinated more completely by pressure than were unheated spores (Table 1). However, germination initiated at higher pressures, i.e. above about 1000 atm., was much less influenced by activation than germination initiated at lower pressures.

Influence of pH value on pressure germination

Pressure initiated the germination of spores optimally near neutral pH, but the optimum was much broader than for germination of spores initiated by nutrients at 1 atm. pressure (Fig. 2).

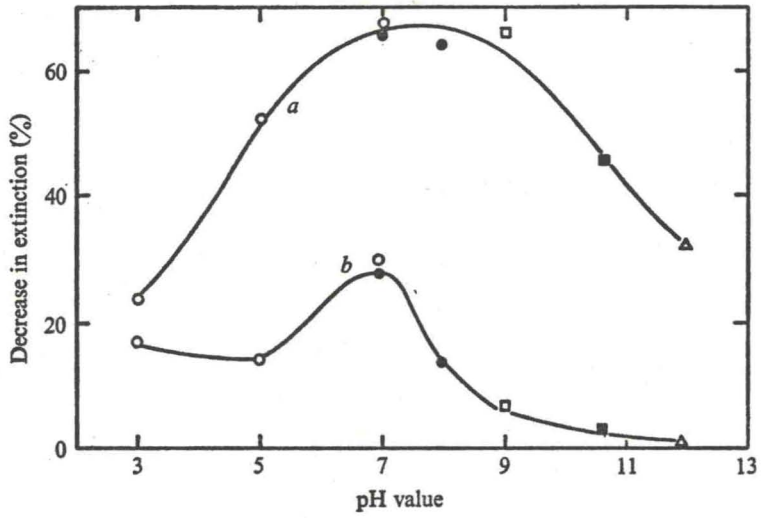

Fig. 2. Pressure germination at different pH values. Spores of *Bacillus cereus* T were activated at 70° for 30 min., then suspended in the following buffers (0·1 M) and subjected to pressures of 1000 atm. (curve *a*) or 250 atm. (curve *b*) for 30 min. at 25°: sodium citrate/phosphate (○); sodium phosphate (●); tris (hydroxymethylaminomethane)/HCl (□); sodium bicarbonate/carbonate (■); sodium carbonate/hydroxide (△). Germination was estimated by measuring the fall in extinction of the treated samples.

Effect of anaerobiosis on pressure germination of aerobic spores

Spores of *Bacillus coagulans* could be germinated by pressure as effectively in media containing reducing agents as in aerobic media (Table 2). Germination of spores of aerobes by nutrients at 1 atm. is well known to be similarly unaffected by anaerobiosis.

Stimulation of pressure germination by amino acids and other compounds

Germination initiated by the lower pressures (below about 1000 atm.) was markedly affected by constituents of the suspending medium (see, for example, the effect of alanine in Table 3). The influence of alanine decreased with rising pressure and became negligible between 1000 and 2000 atm. Following the observations that germination