affects early or acute conditioned reflexes but not chronic ones, it could reasonably be supposed that some sort of a "memory" mechanism develops by continued training at the acoustic cortex, which enables it to emit a conditioned message towards the motor area without receiving the reticular information; this, on the other hand, would be necessary in acute circumstances (Izquierdo, 1962b).

The existence of both an on- and an off-conditioned reflex in acute animals, and the final persistence of only an off- reflex in chronic ones, suggests that the acute experiments are equivalent to an early stage of the chronic one.

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Peroxide Value of Anhydrous Lanolin

SIR,—Anderson and Wood (1962) deduced that short periods of heating at 100° were sufficient to provide lanolin of low peroxide value for special purposes. We have found longer periods to be necessary for refined Wool Fat B.P., with concomitant increases in acid value and colour which make the method of little practical value. Another disadvantage is that the removal of peroxides

TABLE I

CHANGES IN WOOL FAT B.P. HEATED AT 105°

Heating time hr.	Sample A				Sample B + 0·05 per cent BHA			
	Peroxide value (ml. 0·002N per g.)	Acid value	Colour (Lovibond)		Peroxide value	Acid value	Colour (Lovibond)	
			Yellow	Red			Yellow	Red
0	57·5	0·78	4·3	0·4	63·7	0·84	4·1	0·4
3	48·1	0·82	4·4	0·4				
4					46·5	0·88	4·5	0·5
6	24·6	0·86	4·9	0·5				
10·5					13·4	0·98	5·6	0·7
13	8·4	0·90	6·4	0·7				
17	5·7	0·92	7·2	0·8				
17·5					4·9	0·98	6·6	0·7
22·5					4·0	1·00	7·7	0·8
25	4·2	0·94	7·7	0·8				
30	5·1	0·96	8·3	0·9				
30·5					2·8	1·04	8·8	0·9
36	4·4	1·00	9·1	0·9				
37·5					2·9	1·06	9·9	1·0
44	3·8	1·04	10·0	1·0				
47					4·5	1·12	10·7	1·1

by heating alone does not eliminate the permanganate-decolorising substances present in oxidised lanolin (Clark and Kitchen, 1961b). Table I shows typical results obtained with two different samples of Wool Fat B.P. in open glass beakers heated at 105°, one sample containing butylated hydroxyanisole as antioxidant.

To achieve a peroxide value of less than 5, heating for approximately 20 hr. without, and 17 hr. with an antioxidant was needed and increased both colour and acid value. About 12 hr. were needed to give values less than 10.

Other tests made at 55·5° showed that the destruction of peroxides was accelerated by introducing a strip of metal into each sample (Table II), the effects of

TABLE II

PEROXIDE VALUES OF WOOL FAT B.P. HEATED AT 55·5° IN CONTACT WITH METAL

Heating time (days)	Type of metal strip inserted in sample					
	None	Aluminium	Brass	Copper	Galvanised iron	Mild steel
Sample A						
0	50·0	50·0	50·0	50·0	50·0	—
7	50·0	48·5	31·7	37·0	43·5	—
14	38·5	38·0	3·9	7·9	27·3	—
21	37·6	37·5	4·0	5·0	24·5	—
28	33·0	37·5	4·0	3·6	19·8	—
Sample B						
0	72·2	—	72·2	72·2	—	72·2
7	63·7	—	60·6	58·1	—	59·7
11	63·2	—	52·3	54·6	—	46·7
14	53·7	—	41·9	30·7	—	34·1
18	46·9	—	29·9	19·0	—	33·6
25	46·2	—	4·0	4·1	—	27·4
33	43·5	—	3·8	4·3	—	19·5

iron and copper confirming the findings of Janecke and Senft (1957). Colours of the samples measured during the tests showed similar darkening to those reported in Table I.

The rates of fall in peroxide value shown in Table I are low compared to our earlier results on wool-scouring liquor (Clark and Kitchen, 1961a), which showed that even when standing at room temperature the peroxide value of wax in wool-scouring liquor fell by 3·5 in 24 hr. Such a fall does not occur after the wax has been removed from the liquor, and these facts support the suggestion that the peroxides in the liquor are largely chemically or biologically reduced. A catalase-like action may be involved although heavy metal impurities derived from the wool (Janecke and Senft, 1957) could be implicated in a rapid breakdown of peroxides, perhaps accelerated by the finely-emulsified state of the liquor. Relatively high contents of trace-metals might account for the different findings of Anderson and Wood, especially in the wool wax which they solvent-extracted from the fleece.

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